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Annual Report

AND

VITAL STATISTICS

FOR THE YEAR 1925,

With a review of the previous five years.

FOR THE URBAN DISTRICT
OF

WINSFORD.

PREPARED BY

LIONEL JAS. PICTON, O.B.E.,
M.A., M.B., B.Ch., Oxon., L.R.C.P., M.R.C.S.,
Medical Officer of Health for the District.

In accordance with instructions from the Ministry of Health.

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J. Billington & Son, The Modern Press, Winsford. Tel. 38.

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Winsford Medical Officer of Health's Report for 1925, and previous quinquennium.

Gentlemen,

I have the honour to submit my Ninth Annual Report. I am instructed that this is to be a Survey Report dealing comprehensively with :—

"(a) The measure of progress made in the area during the preceding 5 years in the improvement of the public health ;

(b) the extent and character of the changes made during that period in the public health services of the area....

(c) Any further action of importance in the organisation or development of public health services contemplated by the Local Authority or considered desirable"—by me.

Natural and Social Conditions of the Area.

Area in acres ... ... **5,780.**

This figure includes about 100 acres covered by water.

Population :	in 1811 (Ormerod)	2,684
	in 1871 (Ormerod)	7,630
	in 1891 (Census)	10,440
	in 1901 (Census)	10,382
	in 1911 (Census)	10,772
	in 1921 (Census)	10,957
	(*including males 5,419, and females 5,538*)	
	in 1925 (Estimated)	11,434

Physical features and general character of the Area.

The River Weaver running north through the district, divides it into two unequal halves, 4,527 acres to the westward (being the parish of Over) and 1,253 acres to the eastward (being the parish of Wharton). The west of Over is high (200 feet above sea-level) and sandy as far as Well street. Below that the soil is of a clayey character, and the ground falls to the river, the surface of which is 60 feet above sea level. The eastern parts of Wharton (Gravel) are 140 feet above sea level. The salt bearing strata for which the district is famous follow the line of the Weaver Valley northwards. They are said to be independent of the circular salt bearing area of which Middlewich is the centre. Subsidence continues—see map thereof in 1919 report.

Number of inhabited houses in 1921 Census	**2,439**
On 31st December, 1925 ...	2,543
Number of unoccupied houses on same date	*2*
Number of families or separate occupiers in 1921	**2,439**
Rateable Value	**£50,983**
Sum represented by a Penny Rate	**£178 2s. 4d.**

Social conditions, including the chief occupations of the Inhabitants and the influence of any particular occupation on public health.

The manufacture of salt is the raison d'être of Winsford, and has been so from the time when the Romans made salt here. The population is very stable. The trade is now in the hands of three firms . The nature of the work is the evaporation of brine, either by the old or modern method. The old method is to heat the brine in shallow iron pans, each of which is about 60 feet by 25 feet by 2 feet. The heating is done by fires and flues underneath the pans, for all the world like the Roman hypocausts. The modern method is by a vacuum plant. The product is used as table salt, as agricultural salt, and as fish curing salt. It is largely despatched by boats, and the navigation of the Weaver, on which some 200 barges* ply is a feature of Winsford life. Formerly shipbuilding was an important accessory trade in Winsford; but there is not much done nowadays. The salt packing employs a large number of girls in a well appointed building.

Besides the salt industry there are several fustian cutting factories, and one or two clothing factories, and there are about 80 dairy farms, partially or wholly within the district.

The main industry, salt, is undoubtedly healthy. Vigilance has revealed no special incidence of respiratory diseases amongst the fustian cutters .

Vital Statistics :—

		Total.	*Male.*	*Female.*		
Births	Legitimate ...	247	... 123	... 124	Birth Rate per 1,000 living.	22·4
	Illegitimate..	10	... 7	... 3		
	Grand Totals ...	257	130	127		

The Winsford Birth Rate is the second highest in the County.

Birth Rate for the County	16 0
Birth Rate for England and Wales	18·3

**Some of the barges are under their own steam ("Steamers") and the others are towed by the "Steamers." The carrying capacity of each kind of boat is from 200 to 300 tons.*

Birth Rates in Winsford in previous years :—

1895	36·1	1920	24·3
1905	30·2	1921	24·3
1910	26·7	1922	18·8
1915	23·1	1923	20·9
1919	19·3	1924	18·6

	Total.	*Male.*	*Female.*		
Deaths	167	86	81	Death Rate	14·6

Death Rate for the County	11·8
Death Rate for England and Wales	12·2

Death Rates in Winsford in previous years :—

1895	14·9	1920	12·2
1905	15·1	1921	12·3
1910	12·4	1922	13·5
1915	13·4	1923	10·7
1919	15·1	1924	13·9

Number of women dying in, or in consequence of childbirth—

from sepsis	2
from other causes	2

Deaths of Infants under one year of age :—

	Total.	*Male.*	*Female.*	
Legitimate.	16	11	5	Rate per 1,000 births 62
Illegitimate	nil.	nil.	nil.	nil.

This is the lowest infantile death rate yet experienced in Winsford.

Rate per 1,000 births in the County 73

Death Rates of infants under one year of age per 1,000 births in Winsford in previous years :—

1910	84	1915	111	1920	110
1911	147	1916	84	1921	97
1912	102	1917	141	1922	100
1913	145	1918	109	1923	68
1914	104	1919	95	1924	65

Thus we have a relatively high birth rate and a low infantile death rate, which is an exception to the general rule, that both are high together. The birth rate however is low compared with the old rates :—22·4 to-day compared with 36·1 in 1895.

Causes of Death (all ages) :—

	Male.	*Female.*	*Total.*
Scarlet Fever	—	1	1
Diphtheria	1	—	1
Influenza	1	—	1
Tuberculosis of respiratory system	2	2	4
Other Tuberculous Diseases	3	—	3
Cancer, Malignant Disease	9	9	18
Rheumatic Fever	nil.	nil.	nil.
Diabetes	1	—	1
Cerebral Hæmorrhage	6	7	13
Heart Diseases	15	22	37
Arteriosclerosis	2	1	3
Bronchitis	10	6	16

Pneumonia (all forms)	2	1	3
Other Respiratory Diseases	1	—	1
Diarrhœa, &c., under 2 years	2	—	2
Appendicitis and Typhlitis	—	1	1
Acute and Chronic Nephritis	4	5	9
Puerperal Sepsis	—	2	2
Other Accidents and Diseases of Pregnancy and Parturition	—	2	2
Congenital Debility and Malformation, premature birth	3	3	6
Suicide	nil.	nil.	nil.
Other Deaths from Violence	10	—	10
Other Defined Diseases	14	19	33

Unusual or excessive mortality:—The number of deaths from nephritis is notworthy, viz.: 7, in view of the prevalence of this complaint.

Amount of Poor Law Relief :—

The number of persons who received Poor Law relief in the year was 191, including 5 over 70 and 27 under 16. Also 8 persons were admitted from Winsford to the Northwich Workhouse.

In addition 2 children are boarded out in the district by the Guardians.

The extent to which hospital and other forms of gratuitous medical relief are utilized.

The Albert Infirmary, a voluntary Hospital with 25 beds, situated in Wharton, received in 1925:—

In patients 338

These figures are exclusive of patients seen at the Tuberculosis Dispensary.

Deaths 15
Number of patients X-Rayed ... 81

Of the total number of 338, those who were domiciled in Winsford itself numbered 180.

The Albert Infirmary is primarily a surgical hospital; and undertakes most of the routine operative surgery of a wide district from Goostrey to Little Budworth, a 16 mile stretch running east and west across Cheshire,—the area of practice of about 7 or 8 doctors. Several of these however send the whole or part of their surgical patients to the Manchester or Liverpool Infirmaries. The Hospital services, except medical and surgical (which are a matter of arrangement between patient and doctor) are gratuitous on production of a subscriber's letter which, however, is not required for an accident case. The County Council pays, on a basis of user, for in-patients with surgical tuberculosis.

I append a statement of the work done in the year. The columns numbered I to IX in Roman figures refer to the several doctors on the staff. The object of indicating the distribution of cases amongst them is to show that the surgical work has by no means been limited to one or two surgeons, but has been undertaken by the majority of the general practitioners on the staff. There has been a great deal of collaboration—what is now commonly called 'team work'—but each has been responsible for his own patients; and, as there is no house surgeon, the whole of the work is done by the doctors themselves—of course with the invaluable assistance of a willing nursing staff.

Disease.	No. of Cases.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	Consultant oper'd.	Died.
		Number of cases in charge of each doctor on the Staff.										
General Tuberculosis	1	...	...	...	...	...	1	...	...	...	...	...
Erysipelas	3	...	...	...	...	2	...	...	...	1*	...	1*
Pneumonia	1	...	1	...	...	...	...	...	...	...	...	...
Burns and Scalds	7	...	1	1	...	3	1*	...	1	...	...	1*
Diseases of Stomach :—												
(*a*) Cancer :												
Gastrostomy	1	...	1	...	...	...	...	...	...	...	...	...
Gastrectomy—partial ...	1	...	[1]	...	...	...	...	...	...	...	1	...
(No Operation)	1	...	1	...	...	...	...	...	...	...	...	...
(*b*) Pyloric Stenosis :												
Gastro Enterostomy ...	1	...	1	...	...	...	...	...	...	...	...	...
(*c*) Dyspepsia X.R.	1	...	...	...	...	...	...	1	...	...	...	...
(*d*) Gastric Ulcer :												
Gastro-jejunostomy ...	1	...	...	...	...	[1]	...	...	...	...	1	...
Medical Treatment ...	1	...	...	...	...	1	...	...	...	...	...	...
(*e*) Duodenal Ulcer :												
j Perforated :												
Gastro-jejunostomy ...	1	...	...	...	...	[1]	...	...	...	...	1	...
ii Not Perforated :												
Gastro-jejunostomy ...	1	...	1	...	...	...	...	...	...	...	...	...
Medical Treatment ...	2	...	...	...	...	...	...	2	...	...	...	...
Appendicitis :												
Operations	36	...	8	...	...	2	5* [1]	10	3	7	... 1	1* Died of Pulmonary Congestion.
Observation	3	...	...	...	...	...	2	1	...	...	...	...

Disease.	No.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	Consultant oper'd.	Died	
Injury to old Appendix wound	1	...	...	...	...	...	...	...	...	1	...	...	
Intestinal Obstruction :—													
Acute	1	...	1*	...	...	...	...	...	...	...	...	1*	
Sub-Acute :—Colostomy	2	...	1	...	...	...	1	...	...	...	...	...	
Medical Treatment ...	1	...	...	...	...	...	...	1	...	...	...	...	
Diseases of Colon :—													
Colitis :—Appendicostomy	1	...	...	...	...	...	...	1†	...	...	...	...	†Operation performed before Ad.
Medical Treatment and Sigmoidoscopy	4	...	...	...	...	...	...	4	...	...	...	...	
Cancer :—Colostomy and anastomosis of Sigmoid to Cæcum ...	1	...	1	...	...	...	...	...	...	...	...	...	
Exploratory Laparotomy	2	...	...	...	...	...	...	2	...	...	...	...	
Observation	1	...	...	...	...	...	...	1	...	...	...	...	
Hernia :—													
Inguinal :—Strangled ...	1	...	...	...	...	1	...	...	...	...	...	...	
Radical Cure	4	...	...	...	...	1	...	3†	...	...	...	...	† One both sides.
Umbilical ...	1	...	1	...	...	...	...	...	...	...	...	...	
Ischio-rectal Abscess	1	...	...	...	...	1†	...	...	...	...	...	...	† Diabetes.
Fistula-in-ano	1	...	...	...	...	...	...	...	1	...	...	...	
Piles :—Ligature	1	...	...	...	...	...	...	...	...	1	...	...	
Diseases of the Liver & Bileducts :—													
Cholecystotomy	2	...	...	...	...	...	...	2	...	...	...	...	

Disease.	No.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	Consultant oper'd.	Died
Cancer of Liver :												
Observation	1	...	...	...	...	...	...	1	...	...	...	...
Disease of Pancreas :—												
Hæmorrhage into : Laparotomy and Drainage ...	1	...	1	...	...	...	...	...	...	...	...	...
Disease of Genito-Urinary Tract:—												
Uræmia	1	...	...	...	...	...	...	...	1*	...	...	1*Died.
Chronic Nephritis ...	1	...	...	...	...	...	...	1	...	...	...	...
Tuberculosis of Bladder	1	...	...	...	...	...	...	...	1	...	...	...
Enlarged Prostate :												
Prostatectomy ...	1	...	1	...	...	...	...	...	...	...	...	...
Not Operated on ...	1	...	...	...	...	...	...	1	...	...	...	...
Stricture of Urethra :												
Dilatation	2	...	...	...	...	...	...	...	...	2	...	...
Phimosis :—Circumcision	9	...	4	...	...	4	...	1	...	...	...	...
New Growth of Prepuce :												
Removed	2	...	2	...	...	...	...	...	...	...	...	...
Hydrocele :—Tapped ...	1	...	1	...	...	...	...	...	...	...	...	...
Radical Cure	1	...	1	...	...	...	...	...	...	...	...	...
Fibroids of Uterus :												
Hysterectomy	1	...	...	...	...	1	...	...	...	...	...	...
Genital Prolapse :												
(*a*) Hysterectomy for	1	...	1	...	...	...	...	...	...	...	...	...
(*b*) Vaginal Operations for ...	2	...	1	...	...	...	...	1	...	...	...	...

Disease.	No.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	Consultant oper'd.	Died
Endometritis :												
(*a*) Curettage ...	8	...	1	...	...	...	2	5	...	...	...	...
(*b*) Medical Treatment	1	...	...	...	...	1	...	...	...	...	...	...
Vaginal Repair	1	...	1	...	...	...	...	...	...	...	...	...
Respiratory Organs :—												
Bronchitis	1	...	...	...	...	...	...	1	...	...	...	...
Pleurisy:—Aspirated ...	1	...	...	...	...	1	...	...	...	...	...	...
Empyema :—Thoracotomy	3	...	1	...	...	1	1	...	...	...	...	...
Circulatory Organs :—												
Valvular Disease of the Heart :												
Failure of Compensation	2	1*	...	...	...	...	...	...	1*	...	...	2* Died.
Gangrene :— Amputation through Knee ...	1	...	...	...	...	1	...	...	...	...	...	...
Varicose Veins :												
(*a*) Removal ...	1	...	1	...	...	...	...	...	...	...	...	...
(*b*) Varicose Ulcer [Dressed with Flavine]	3	...	1	...	...	...	...	1	1	...	...	...
Punctured Wound of Artery :—Ligature	1	...	...	...	...	...	...	1	...	...	...	...
Eye Diseases :—												
Foreign Body :—Removal	1	...	1	...	...	...	...	...	...	...	...	...
Cysts of Lids	2	...	...	...	...	1	...	...	1	...	...	...
Nervous System :—												
Peripheral Nerves :												
Sciatica :												

Disease.	No.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	Consultant oper'd.	Died	
Alcohol Injection …	1	…	…	…	…	…	…	…	1	…	…	…	
Stretching … …	1	…	…	…	…	…	…	…	1	…	…	…	
Trigeminal Neuralgia :													
Alcohol Injection …	1	…	1	…	…	…	…	…	…	…	…	…	
Cerebral Palsy : …		…	…	…	…	…	1	…	…	…	…	…	
Head Injuries :—													
Scalp Wounds … …	5	…	1	…	1	1	1	…	…	…	…	…	Also 1 Unalloted.
Epithelioma of Scalp …	1	…	…	…	…	1	…	…	…	…	…	…	
Fracture of Skull :													
(*a*) Vault … …	2	…	2	…	…	…	…	…	…	…	…	…	
(*b*) Base … …	2	…	1	…	…	…	…	…	…	1*	…	1*Died,	
[All caused by Violence not gun-shot wounds]													
Concussion … …	2	…	1	…	…	…	1	…	…	…	…	…	
,, of Spinal Cord	1	…	…	…	…	1	…	…	…	…	…	…	
Compression … …	1	—	—	—	—	—	[1]	—	—	—	**1***	—	* Died of Depressed Fracture.
Meningitis :													
Secondary Septic …	1	—	—	—	—	—	—	—	1*	—	—	1*Died.	
Mental Disease :—													
for Observation … …	1	—	—	—	—	—	—	1	—	—	—	—	
Habit Spasms :—													
Torticollis—Tenotomy …	1	—	1	—	—	—	—	—	—	—	—	—	
Ear Diseases :—													
Aural Polypus … …	2	—	1	—	—	1	—	—	—	—	—	—	
Exostosis of Meatus …	1	—	—	—	—	—	—	1	—	—	—	—	

Disease.	No.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	Con-sultant oper'd.	Died	
Dental Diseases :—													
Extraction of all Teeth ...	1	—	—	—	—	—	1	—	—	—	—	—	
Alveolar Abscess ...	1	—	—	—	—	1	—	—	—	—	—	—	
Nasal Diseases :—													
Deviated Septum :													
Curved Incision Operation	1	—	—	—	—	—	—	1	—	—	—	—	
Cysts	2	—	—	—	—	1	—	—	1†	—	—	—	†Dermoid.
Nasal Polypi	1	...	1	...	...	...	...	...	—	—	—	—	
Tonsil and/or Adenoids : Removal	58	...	15	...	...	23	13	6	1	...	...	...	
Glands in the Neck :													
(*a*) Suppurated : incised ...	12	...	6	...	1	2	...	...	3	...	...	...	
(*b*) Ablation	2	...	1	...	...	1	...	...	...	...	...	...	
Diseases of Muscles, Joints, and Bones :—													
Myositis	1	...	...	...	...	...	...	1	...	...	...	...	
Fibrositis : adhesion wrenched	2	...	1	...	...	1	...	...	...	...	...	...	
Bursæ :—													
Prepatella—Incision ...	2	...	...	...	...	...	...	1	1	...	...	...	
Ganglion : removal ...	1	...	1	...	...	...	...	...	...	...	...	...	
Hallax Valgus : Osteotomy and Tenotomy both feet	1	...	...	...	...	...	...	1	...	...	...	...	
Tuberculosis of Bone ...	4	...	2‡	...	...	1†	...	...	1§	..	...	...	‡(*a*) Knee (*b*) Hip [Tr .by Extension † Abscess Loin § Elbow, Plaster

Disease.	No.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	Con-sultant oper'd.	Died	
Dislocations :—													
Of Shoulder	1	1	...	...	...	...	...	...	...	...	...	...	
Of Thumb	1	...	1†	...	...	...	...	...	...	...	...	...	
Acute Synovitis	1	...	...	...	...	...	...	1	...	...	...	...	†Septic Drained.
Chronic Synovitis ...	1	...	1	...	...	...	...	...	...	...	...	...	
Acute Arthritis	1	...	1†	...	...	...	...	...	...	...	...	...	
Diseases of Tendons :													
(*a*) Palm	1	...	...	...	...	1	...	...	...	...	...	...	
(*b*) Whitlow	1	...	...	...	...	1	...	...	...	...	...	...	
Fractures :—													
Humerus :													
(*a*) Upper	1	...	...	...	...	...	...	...	...	1	...	...	
(*b*) Lower	1	...	...	...	...	...	...	...	1	...	...	...	
Avulsion of Arm at Elbow :													
Amputation through													
upper third Humerus...	1	...	...	...	...	...	...	1	..	...	...	...	
Ulna and Radius ...	1	...	...	...	...	1†	...	...	...	...	...	...	†Greenstick.
Phalanges	4	...	1	...	..	2†	...	...	1	...	...	...	†1 Amputation.
Femur :													
(*a*) Upper end	2	...	...	...	...	...	...	...	1*	1	...	1*	*Died.
(*b*) Shaft	1	...	...	...	...	...	1†	...	...	...	...	...	†Old Fracture for Massage.
(*c*) Lower end	1	...	...	...	...	...	...	...	1	...	...	...	
of Patella :													
(direct violence compound)	2	...	...	...	...	1	...	1	...	...	...	...	
of Tibia	1	1	...	...	...	...	...	...	...	...	...	...	

Disease.	No.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	Consultant oper'd.	Died	
of Tibia and Fibula ...	6	...	1	...	...	2	1	1†	...	1§	...	...	† Both Legs. § Compound
Potts Fracture	2	...	...	...	...	1	...	...	1	...	...	...	
of Toes	1	...	...	...	...	1*	...	...	...	...	...	...	† Fracture : amputation
of Ribs	2	...	...	...	...	1	...	...	...	1	...	...	
Skin Diseases :—													
Boil	1	...	1	...	...	...	...	...	...	...	...	...	
Carbuncle	1	...	...	...	...	...	...	...	...	1*†			* Died. † Diabetes.
Wart	1	...	...	...	...	...	...	...	1	...	...	...	
Ingrowing Toe-nail ...	2	...	1	...	...	...	...	...	1	...	...	...	
Lipoma	2	...	...	...	...	1	1	...	...	...	...	...	
Sebaceous Cysts ...	3	...	2	...	...	...	...	...	1	...	...	...	
Cattle Ring-worm ...	1	...	1	...	...	...	...	...	...	...	...	...	
Diseases of the Breast :—													
Chronic Cystic Mastitis, Removal...	5	...	1	...	...	1	...	2	...	...	...	...	
Carcinoma :													
Amputation	6	...	1	...	...	2	...	...	2	1	...	...	
Excision of Scar ...	1	...	...	...	...	...	...	...	...	1	...	...	
Cellulitis and Abscess of Various Situations	18	...	3	...	...	4	2	5	2	2	...	...	
Wounds	8	...	1	...	1	2	...	...	1	3	...	...	
Bruises	1	...	...	...	...	...	...	...	1	...	...	...	
Shock	2	...	...	...	...	...	...	...	2	...	...	...	

The number of serious cases dealt with in other hospitals may be gauged roughly by the numbers admitted from Winsford to the three outside hospitals to which the Urban District Council Subscribes:—

		Urban District Council's Subscription.	No. of Patients from Winsford.	
			In.	Out.
Outside* Hospitals	Manchester Royal Infirmary	£13.	22	20
	Royal Manchester Children's Hospital	£5.	Nil	2
	St. Mary's Hospital	£3.	6	1
	Manchester Eye Hospital	£7.	8	40
	The Albert Infirmary	£7.	180	Not Counted.

* *Also 2 patients from Winsford attended the Manchester Ear Hospital in 1925.*

It will thus be seen that with the exception of the eye cases which stand on a special footing, the Albert Infirmary deals with the majority of the surgical and other cases that receive hospital treatment. The amounts of the Council's subscriptions seem to bear but little relation to the facts, and probably are merely traditional, dating from a time when the facts were otherwise. It may however be fair to keep them at their present level as an acknowledgment of the facilities the outside institutions provide in exceptional cases. The subscription to the Albert Infirmary is too insignificant to represent the Council's indebtedness to it in the matter of providing beds in connection with its maternity and child welfare work, for the Infirmary will and does accept patients for cæsarean section, and gynecological patients; and many children under 5 years of age have been treated.

This part of my report goes to show that here, at any rate, the hospital problem is settling itself on the lines of a small local general hospital, officered by the general practitioners of the district, who are equipping, or have equipped themselves for almost all the different departments of surgical and medical practice so far as the ordinary run of cases is concerned. Cases of exceptional nature and difficulty, or requiring facilities not here available at present, naturally require help from outside the district. In this connection it may be mentioned that the County Council have recently arranged that the services of certain consultants may be had for tuberculosis cases under the County Tuberculosis Scheme. The Consultants are:—

for lung cases:—Dr. Albert Ramsbottom, **M.C.**, F.R.C.P.,
(Professor of Clinical Medicine, Victoria University),
15, St. John Street, Manchester.
(Tel. Central 2605).

Dr. John Hay, D.L., F.R.C.P.,
(Professor of Medicine, University of Liverpool),
12, Rodney Street, Liverpool, (Tel. 1167 Royal),

for Surgical cases:—Mr. Harry Platt, M.S., F.R.C.S.,
(Senior Honorary Surgeon and Surgeon and Surgeon
i/c the Orthopædic Department, Ancoats Hospital),
26, St. John Street, Manchester,
(Tel. City 4033. Telegr. "Semilunar" Manchester.

Mr. Thomas Hartley Martin, M.B.,
(Senior M.O., Hospital for Surgical Tuberculosis in
Children, Leasowe, Cheshire),
Liverpool Hospital for Children, Leasowe, Cheshire,
(Tel. Wallasey 1451).

Causes of sickness or invalidity which have been specially noteworthy in 1925.

Practitioners in Winsford state that they have had a most unusual number of patients with acute nephritis during the last 4 months of 1925 and the first two of 1926. An experienced practitioner tells me he has seen more of such cases in the past 6 months than in the previous 10 years, and a similar frequency has been noted independently by another medical firm. The patients appear to have influenza, in the course of which nephritis develops, and the kidney condition has, in a number of cases, been of a severe type with copious hæmaturia. I have noted above an increase of deaths from nephritis; but most of the cases get well with a prolonged convalesence. There must have been some 50 or more of these cases. No cause beyond the type of influenza can be assigned. I understand that there is no similar prevalence in the adjacent village of Middlewich.

Conditions of occupation or environment which appear to have had a prejudicial effect on health.

Overcrowding is dealt with under 'housing.' Lodgers, and second families in one house are responsible for most of it, especially in the lower rented property. The census figures of 1921 do not reveal the real number of families per house, which is more nearly 1.2 or 1.3 than 1.0 as stated (see p. 49).

The staple industry, salt manufacture, is healthy. The families engaged have been in it for generations. Many of them are familar with agriculture, and they are of a similar class to agricultural labourers. There has been a good deal of short time, but relatively few have had long periods out of work altogether. The girls who work in the packing factory start early in the day, and when they have accomplished a certain stated amount of packing, their day's work is done, be it early or late. This system encourages an early start and freshness in the execution of work.

Deaths amongst Salt Workers :

		Age at Death.	
Disease.	*Occupation.*	*Under 70*	*Over 70*
Senile Decay	Saltmaker	—	78
Myocarditis and Senile Decay	Formerly a Saltmaker	—	87
Epithelioma of tongue and Exhaustion	Formerly a Saltmaker	—	76
Senile Decay	Formerly a Pansmith at Saltworks	—	85
Senility, Enlarged Prostate, Retention of Urine	Formerly a Nigh Watchman at Saltworks	—	74
Senile Decay	Formerly a Saltmaker	...	76
Heart Disease, Syncope	Formerly a Saltmaker	66	—
Heart Disease, Dropsy	Salt Labourer	30	—
Influenza, Pneumonia	Saltmaker	—	72
Senile Decay	Formerly a Saltmaker	—	75
Heart Disease, Dropsy	Salt Labourer	69	—
Bronchitis, Exhaustion	Salt Labourer	—	76
Septic exhaustion from bruised ear, accelerated by acute Bronchitis caused by being knocked down by a motor car on 31st March, 1925	Salt Labourer	35	—
Cancer of Stomach and Liver	Formerly a Saltmaker	—	84
Cerebral Hæmorrhage	Saltmaker	64	—
Chronic Bronchitis, Asthma	Saltmaker	65	—
Bronchitis, Heart failure	Salt Labourer	69	—
Acute Nephritis, Uræmia	Salt Labourer	20	—
Diabetes Mellitus, Carbuncle of neck and Coma	Locomotive Driver at Saltworks	54	—
Epithelioma of Tongue	Saltmaker	65	—
Bright's Disease, Uræmia	Stationary Engine Driver at Saltworks	69	—
Heart Disease, Syncope	Saltmaker	65	—
Hemiphlegia	Formerly a Saltmaker	—	74
Carcinoma Bowel, Exhaustion	Salt Labourer	69	—
Bronchitis, Exhaustion	Formerly Engine Driver at Saltworks	—	77

Under 70—13. Over 70—12.

This, surely, is no bad record, and speaks well for the conditions of the industry. Three out of 25 of the deaths were from Cancer, and the average age of the 3 was 72 : nothing here to lend support to the uninformed talk of salt causing cancer !

Fustian cutting, on the ground that the material is dressed with a silicate preparation, might be supposed to cause silicosis.

We have had no confirmation of this in our experience; and, explaining this freedom, Sir Thomas Legge, of the Home Office, has written me on this matter as follows:—"Silicosis would not occur as it is the presence of free silica (Si O2) which practically alone among mineral matters can set up fibroid phthisis. The conversion of silica into a silicate, in some mysterious way removes its harmful properties."

The meat inspection instituted in April 1925 revealed so much diseased meat that it is impossible to resist the conclusion that, up to then, the district has habitually consumed a considerable quantity of meat which would not have been passed by an inspector . It remains to be seen whether there will be any improvement in the general health, and any fall in the incidence of particular classes of illness in consequence of the present strictness of inspection.

The cess-pool privies are gradually being reduced in number. They are unhealthy adjuncts to a house, an avowed nuisance.

A great many inhabitants of Winsford use a low grade coal, brought to the district for heating the salt pans. This coal leaves much more ash and clinker than ordinary household coal, and in consequence the disposal of ashes is four times as difficult in Winsford as elsewhere. Walls and roads are made from the "basses" from the salt-pan fires, and years ago the late Mr. Falk built the houses of a whole hamlet, Meadow Bank, mainly of these "basses" (or large masses of fused clinker). But the economic disposal of the domestic ashes is an unsolved problem. They quickly overflow any bins provided, and the result is that many parts of the district are almost inevitably untidy on account of cinders with other refuse thrown on waste ground.

The value of an orderly and wholesome environment, free from dust and flies, is so great that this cinder nuisance requires the attention of the department concerned. The amount of organic refuse (e.g. potato peelings) mixed with the ash and cinder refuse is small, but if it could be separated, and dealt with separately a great advance would be secured.

GENERAL PROVISION OF HEALTH SERVICES IN THE AREA.

Hospitals provided or subsidized by the Local Authority or by the County Council:—

(1) **For Tuberculosis**:—(by the County Council):—
(a) Burntwood Sanatorium, Staffordshire.
(by the B.R.C.S. and Order of St. John's gift to the County Council;

(b) Wrenbury Hall (Colony for Consumptive men), seven miles from Nantwich and 14 from Burntwood.

(2) **For Maternity** :—For normal maternity there is no institutional provision. The Albert Infirmary is available for cæsarean section or other operative treatment.

(The Council contributes £7 per annum to its funds).

(3) **For Children** :—No hospital provision except the Albert Infirmary, (which consistently ignores a rule that children shall not be taken).

(4) **For Fever** :—Enteric, Scarlet and Puerperal Fever, and also Diphtheria patients may be sent to the Davenham Isolation Hospital. This is 4 miles outside the district, but is under a Joint Board representative of the Northwich Rural and Urban, the Middlewich Urban and the Winsford Urban Districts. (Population of Joint Districts: about 65,000. Number of beds: 34.

There is no hospital provision for Encephalitis Lethargica; but from the infection point of view that appears to be unnecessary, as the disease seems to be even less infectious than pneumonia, although being new and strange, it has touched the public imagination.

(5) **For Smallpox** :—Marbury Smallpox Hospital (under the same joint board). This Hospital is only opened in case of need. It is situated outside the area.

(6) **Other** :—The Albert Infirmary (see above page 6).

Any institutional provision—

for unmarried mothers in the area ...	nil.
for illegitimate infants	nil.
for homeless children	nil.

Ambulance Facilities :—

(a) **For Infectious Cases** :—Davenham Hospital Motor Ambulance.

(b) **For Non-Infectious and Accidental Cases** :—

i Winsford Division St. John Ambulance Brigade.
ii "Winsford & District Ambulance Brigade" (affiliated to the B.R.C.S.)

Each of these bodies has a good Motor Ambulance, and includes a keen body of ambulance personelle. The Council subscribes £10 to each.

Clinics and Treatment Centres:—

(Strictly speaking there is none, for our centre, being advisory only, cannot be so described).

Maternity and Child Welfare Centres :—Consultation and Treatment.

Our Centre is most energetically conducted and successful; but its activities are concerned with child welfare only, **not** treatment (see below page 74).

The centre is housed in Siddorn Street, just off High Street, in two rooms behind the Free Library, the property of the Council. Its sessions are on Fridays, from 2-30 to 4-30.

Day Nurseries:—There is none, the conditions of female labour (fortunately) not calling for any.

School Clinics:—There is none; but there should be. The County, of course, is the Education Authority; and has its own system of school medical inspection. But the district is, doubtless, too small to require more than the periodic presence of the School Inspecting Doctor. Meanwhile my chance inspection of classes or whole schools in which cases of infectious disease (Scarlet Fever, Measles, etc.) may have broken out, reveal that many children suffer with minor infective conditions, impetigo, dirty heads, etc., which are often associated with enlarged glands; and from other unhealthy conditions of a subacute or chronic character requiring medical attention, but, in the class of population concerned, not likely to receive it, and not, in fact, receiving it. I have brought this matter to the notice of the County M.O.H., Dr. Meredith Young, and, with the agreement of the local doctors, have offered the organisation of a minor treatment centre to which children suffering from such conditions as those mentioned might be sent by the schoolmasters, the centre to be carried on by the general practitioners in the town, each taking a certain day, and to employ a suitable nurse. Dr. Young has given his personal approval to the suggestion with cordiality and promised to commend it to his committee; but there for the moment the matter stands.

Tuberculosis Dispensary:—This is held at the Albert Infirmary, and is under the control of the County Council. The following is a summary of a report of the year's work given by an assistant Tuberculosis Officer, Dr. J. Hague.

Dispensary open Mondays, 5-30 p.m. to 7 p.m.
New cases 42. Total attendances 183.

Treatment Centre for Venereal Diseases: There was a County Council Clinic, held at the Albert Infirmary, in 1919 & 1920. It did a considerable amount of useful work. The attendances in 1920 numbered 308. It was officered by a rota of general practitioners on the staff of the Albert Infirmary. Colonel Harrison, D.S.O., inspecting the clinic in 1921, reported adversely on its continuance, and it was given up, accordingly, at the end of March of that year. The clinical results of the work, however, quite justified the centre at the period at which it existed. Several grounds render it unnecessary to revive it, viz: there is believed to be a considerable fall in the incidence of these diseases: such cases as occur can ordinarily receive fully adequate treatment from the local profession, through the Insurance Act arrangements or privately, especially as Salvarsan and its substitutes are now provided free by the County Council; and the patients who attended the clinic during its currency almost all came by train from other towns.

Public Health Officers of the Local Authority.

Officer and Qualifications and other Public Offices held.	Whole Time.	Part Time.	Salary Contribution.	
			Under P.H. Acts.	By Exchequer Grants.
Medical Officer of Health.				
Lionel Jas. Picton, O.B.E., M.A., M.B., B.Ch. Oxon., L.R.C.P., M.R.C.S.; Medical Officer and Public Vaccinator, Church Hulme; Medical Referee, Ministry of Pensions and Govts. of Australia and New Zealand.	...	Yes.	Yes.	...
Sanitary Inspector.				
Thomas Hickson, A.R. San. I.	Yes.	...	Yes.	...
Medical Officer of Child Welfare Centre.				
R. H. Deans, M B., D.P.H.	...	Yes.	...	Yes.
Meat Inspector.				
The late Mr. Bibby, M.R.C.V.S. (from April, 1925), and as Acting Inspector—	...	Yes.	...	...
Mr. Currie, M R.C.V.S. (from Mar., 1926).	...	Yes.	...	...
James Turnbull Taylor, M.R.C.V.S. (from June, 1926).	...	Yes.	...	...
Health Visitor.				
Nurse Mrs. M. Joynson.	Yes.	...	...	Yes.

The Surveyor is not strictly speaking a Public Health Officer, but he co-operates wholeheartedly with our department. He is:—

John Blomerley Scholefield, M. Inst. M. & Cy. E., M. I. Struct. E., M.R. San. I., A.M.I.S.E., A.M.S.E.

Professional Nursing in the Home:

(a) **General.**—The Winsford and Moulton Nursing Association, to which the Council subscribes £30 per annum, employed in 1925: Two Trained Nurses, "Queen's Nurses," each with the C.M.B. Certificate and also one Midwife with C.M.B. Certificate and some Cottage Hospital training: Residence, Nurses' Home, 92 Weaver Street, Winsford.

The Nurses assist at the Child Welfare Centre.

One District Maternity Nurse, with C.M.B. Certificate is stationed in the hamlet of Whitegate.

There is also a private nurse with the C.M.B.

(b) **For Infectious Diseases, e.g., Measles, etc.**—In a mild or sporadic outbreak of measles the Sanitary Inspector visits each house and distributes leaflets, &c. In severe epidemics of measles the Health Visitor discontinues her other work in order to undertake the visitation of measles patients; but it is noticed that when she gives up visiting babies, so as to do this other duty, the attendance at the Child Welfare Centre falls, demonstrating the effect of her visits. The Measles visiting is for inspection and advice only, not for nursing. As a result of the advice given, a very large proportion of the patients are well looked after, and about or rather more than, 60 per cent. come under the care of a doctor.

For Pneumonia, if severe and epidemic, the Council would be willing to provide nurses. The arrangement in 1921, when this provision was last used, was that one trained nurse was attached, at the expense of the Council, to each firm of doctors in the town.

Midwives:—

Employment of, or subsidy to, practising midwives, by the Local Authority.—All the nurses mentioned in the paragraph on p. 23 above, headed "Professional Nursing in the Home" are trained midwives; and midwifery or monthly nursing constitutes a principal part of their work.

Number of Midwives practising in the Area.—There are ten, including those employed by the Nursing Association and the bonafide midwives, the list is as follows:—

District Nursing Association Nurses:—

(Queens Nurses:—

Nurse Miss Roberts, C.M.B., } 92, Weaver Street,
Nurse Miss Bailey, C.M.B., } Over.

(Midwives):—

Nurse Miss Hayward, C.M.B., 92, Weaver Street, Over.

Nurse Mrs. Tomlinson, C.M.B., Queen's Cottage, Whitegate.

Private Nurse:—

Nurse Mrs. Court, C.M.B., Post Office, Delamere Street, Over.

Bona-fide Midwives:—

Mrs. Albiston, off St. George's Road, Over.
Mrs. Barber, 347, Station Road, Wharton.
Mrs. Hunt, Swanlow Lane, Over.

Mrs. Knowles, Bradford Road, Over.
Mrs. Orme, Swanlow Lane, Over.
Mrs. Smith, Dingle Lane, Over.

Chemical Work:—

Arrangements in Force for Chemical Work during the period under review, and their results.—During the last five years samples of the town's water have been analysed as follows. I include briefly the bacteriological as well as the chemical findings:—

1921, June 3rd, by the Laboratory of Public Health, York Place, Manchester:—

Stretches' Spring, runnel at source:—The number of bacteria is not large, considering that the water is a surface water and not filtered. There is no evidence of pollution. (1921 Report (p. 15).

Stretches' Spring, outlet:—Although there is no evidence of fæcal pollution, the number of bacteria is so great and their kinds so many that the water cannot be considered quite safe for domestic purposes.

1922, February 22nd, by the County Analyst:—
(Chemically) satisfactory.

Same date, by the Laboratory of Public Health, York Place, Manchester:—

(Bacteriologically) satisfactory. (1922 Report (p. 15).

1924, October 24th, by the Clinical Research Department, St. Bartholomew's Hospital (bacteriologically):—

Butts' Spring, outfall:—"No definite bacteriological evidence of pollution by faecal contamination."

Austin's:—"No true B. coli, but a numerous doubtful, but possibly human bacillus."

Stretches', extreme western point:—"True B. coli present."

Auxiliary Well:—"Not a good water. True B. coli absent from 1.0 cc., but present on subculture in 10 cc."

Summary:—"The Auxiliary Well and Stretches' Spring shew definite evidence of fæcal pollution, though in both cases within potable limits, provided the topographical conditions are satisfactory."

1924 (about September, but Report undated) by Mr. S. Ernest Melling, County Analyst (of Messieurs Melling and Ardern, Manchester):—

Oakmere water, proposed new water supply:—(Chemically)—"The comparatively high figure recorded under 'Albumenoid Ammonia' " (0.021 part per 1,000,000) "and also the results of oxygen absorption" (oxygen absorbed at 15 degrees C. in 15 minutes=0.036 parts per 100,000: in 3 hours 0.100), "indicate the presence of a rather excessive amount of organic matter, the origin of which, however, appears to be vegetable in character."

(Plumbo-solvent action = takes up an appreciable amount of lead on contact for 24 hours at 10 degrees C.) "Whilst I am in favour of the use of this supply for domestic purposes, it should be conditional upon such pre-treatment as is necessary to eliminate its plumbo-solvent effect. There are alternative methods available for this purpose and perhaps the simplest is to pass the water through layers of limestone."

(Bacteriologically):—Total organisms developing on gelatine media at 20 degrees C. = 66 per cc. On argar at 37 degrees C. = 10 per cc. Excretal B. coli absent in quantities up to 40 cc.

Legislation in Force:—

General Adoptive Acts:—

Infectious Disease (Prevention) Act, 1890.
Public Health Amendment Act, 1890.
Public Health Amendment Act, 1907 parts ii, iii and iv.

Bye-laws:—

Schedule I, Public Health Act, 1875—Approved 1877.
Bye-laws by L. B. of Winsford District under Public Health Act, 1875, allowed August 1877.
(a) Re Streets and Buildings
  (These bye-laws were withdrawn by the Ministry of Health, 13th November, 1925.)
(b) For the Prevention of Nuisances, 1877.
(c) For Regulation of Common Lodging Houses, 1877.
(d) For Regulation of Slaughter Houses, 1877.

Special Local Orders:—

Water Works: Regulations and Charges, 1877.
Dairies, Cowsheds and Milkshops in the Urban District of Winsford.
Fire Brigade Regulations, 1877.
Laying of Drains and Connections with Main Sewers, 1880.
Ashbins: Provision of movable, 1st January, 1914.

Particulars of Administration.—The Adoptive Acts and Bye-laws(b) (c) and the Dairies Local Order are administered by the Sanitary Inspector and myself. Bye-laws (d) are administered by the Veterinary Meat Inspector, the Sanitary Inspector and myself.

Byelaws (a) [building] are withdrawn and the new model intermediate series is under consideration.

The Waterworks are under the Surveyor, Mr. J. B. Scholefield, and the Water Inspector, Mr. Richard Pickstock.

The Laying of Drains and Connections with Main Sewers is also in the Surveyor's Department, and he is responsible too, for the Ashbins.

The Fire Brigade Superintendent is Mr. Alfred Weedall, and under him are a Captain, 2 Sergeants and 6 Firemen. There is a new Cotton Hall Fire Engine on a Ford chassis (No. 8770) stationed at the Urban District Council's building in the Market Place.

Important points in which the work of the Local Authority is relative to, or is administered in co-operation with the medical and ancillary services of National Health Insurance or of the Voluntary Hospital or of the Poor Law or of other agencies:—

Beyond the aforementioned subscription of the Council to the Albert Infirmary and other hospitals there is no organic connection between the Council and any of these agencies.

SANITARY CIRCUMSTANCES OF THE AREA.

Water :—

Sufficiency.—On 8th January, 1921, in common with the Clerk, Surveyor and Sanitary Inspector, I addressed a letter to the Council with respect to the need for an increased water supply. Our springs at Little Budworth yield 21 * gallons a head a day for a population of about 11,500. The letter pointed out that an extension of the water carriage system would require more water. The W.C's. at that date numbered 1,167. Since then some 200 have been added. The conversion of the 822 cesspool privies, that still remain, to a sanitary form of closet is overdue. It will be desired that the majority, if not all, the conversions shall be to water closets. For such a purpose about 78,000 gallons of water per day more than is available now would be required.

Considerations such as these and foresight in view of possible growth of the town, have led the Council to purchase the water-rights of Oakmere, and to embark on a large and ambitious water scheme.

Before describing the Oakmere water scheme I will speak of the existing water supply. It is from three springs, "Stretches,'" "Austin's" and "Butts'." Together they yield 250,000 gallons in 24 hours for the use of the town. The springs are in the parish

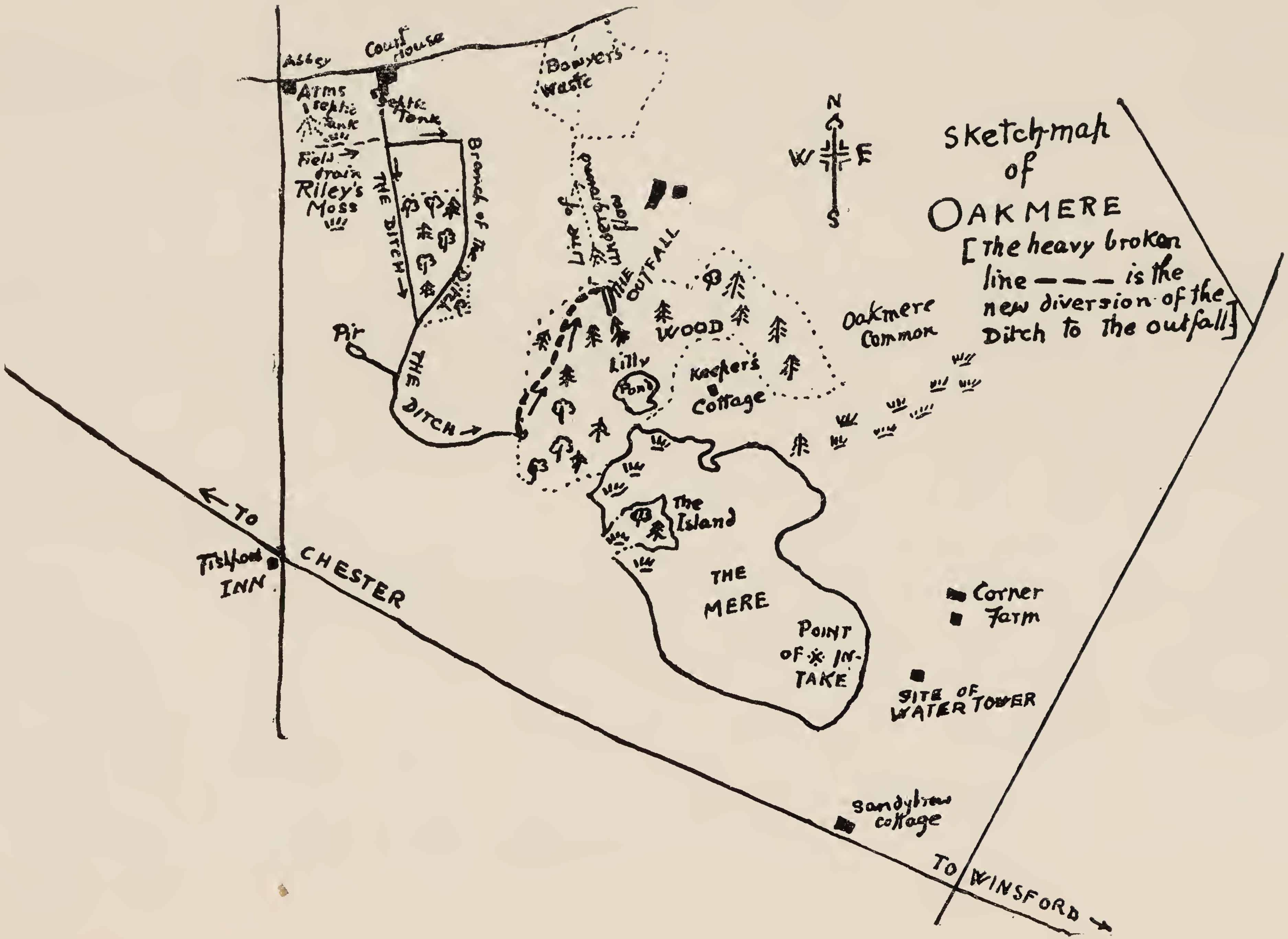
The Public Baths, which were burned down in 1919, consumed 50,000 gallons a week. When rebuilt, which they are to be shortly, they will call for as much or more water once more.

of Little Budworth in the Northwich Rural District. Thence the water is led in a 10in. pipe to a reservoir in Whitby's Lane, Over. This reservoir holds 1,500,000 gallons. The greater part of the town is supplied by a gravitation main. To supply the higher portions of the town, above Well Street, water is pumped up into a water tower adjacent to the Whitby's Lane reservoir. Four matters fall to be mentioned about this supply:—

(1).—If the larger scheme, Oakmere, had not been embraced, it would perhaps have been possible to obtain more water than we do from one of the three springs—"Stretches'." Much of the water from this spring flows away as a stream. If that stream were all used the existing supply would receive a considerable augmentation. That scheme would have meant purchase of a further strip of land in the valley, and adjustment of the rights of the riparian owners. The latter might have been difficult and costly, and would have included the provision of several cattle drinking places.

(2).—We have for some years added a little to our water supply by using the brook water taken from a point opposite to Austin's springs, almost half-a-mile due east of the source of the brook. At this point a well-shaped hole has been sunk which is called, euphemistically, "the well." If it had no open connection with the brook, it might derive water from it, and that water might be cleaner than the brook water, inasmuch as it would be filtered through the intervening soil and sand. This a principle often employed by armies in the field. But the water is not derived thus by seepage from the brook. That would be a slow method and a more rapid supply is desired. At some date a pipe has been laid between the brook and the so-called well, by which the brook water enters direct. This fact makes possible contamination of the brook important. In my 1924 Report (pp. 26-7) there is a summary of a report which I made to the Council in January 1924 on the cattle drinking places which constitute these sources of contamination. The analysis quoted above (pp. 25-6) indicates that so long as this auxiliary supply is used, these contaminations should be regarded as serious.

(3).—Last year I called attention to a defect of Stretches' spring as follows:—(1924 Report p. 26). "At a point a few yards above the intake of Stretches' spring, a slimy ooze is invariably (or almost invariably) noted contaminating the water. It proceeds out of the left bank, and may, I think, come by soakage from the farm midden on the hill some 50 yards to the north of the left bank." This matter has been gone into by the Surveyor to the Northwich Rural District, and at his request the farmer has moved the midden a few yards. That hardly complies with my wish which was expressed in my Report as follows:—"The midden of the farm on the left bank of Stretches' should be on


Sketch-map of OAKMERE
[The heavy broken line — — — is the new diversion of the Ditch to the outfall]
N
S
W
E
Abbey Arms
Court House
Septic Tank
Septic Tank
Field drain
Riley's Moss
Bowyer's Waste
THE DITCH
Branch of the Ditch
Pit
THE DITCH
Line of Underground flow
THE OUTFALL
WOOD
Lilly Pond
Keeper's Cottage
Oakmere Common
The Island
THE MERE
POINT OF INTAKE
Corner Farm
SITE OF WATER TOWER
Sandybrow cottage
Fishpool INN
TO CHESTER
TO WINSFORD

a concrete slab draining to an impervious manure tank with a pump but without overflow." That Report continued to deal with another point:—"The cesspool, also, which receives the lower drainage, on the south side of the yard should be rendered impervious and emptied regularly." The Northwich Rural District Surveyor informs me that he has dealt with this tank; but, so long as the springs constitute our water supply, its condition and emptying will have to be watched.

(4).—Austin's springs are always flooded and the analysis of the water from them, quoted above (p. 25), suggests to me that it is essential that, before they can be regarded as a satisfactory source, arrangements should be made to overcome the present stagnation. I have brought this matter to the Council's notice; but nothing has been done.

Oakmere.—This is a natural lake, 50 acres in extent, situated in the parish of Delamere. That parish was formed by an Act of Parliament of 52 Gen. III, June 9th, 1812, out of the remains of the old forest of Mara and Mondrem, once a chace of the Norman E~~e~~arls of Chester. Their master-forester was first a de Kingsley, and next a Done of Utkinton, from whom the present 'bow-bearer and chief forester of Delamere,' the Earl of Haddington, is descended. The Charter of Vale Royal Abbey, however, gave the monks certain forest rights, including the ownership of Oakmere itself. One of the provisions of the Act of 1812 was to reserve Oakmere to Thomas Cholmondeley, Esquire.* From his descendant, Lord Delamere, the Winsford U.D.C., on 1st September, 1915, agreed to purchase certain water rights. These rights were as follows:—

(1). The Council have full and exclusive right and liberty in perpetuity of taking, using and disposing of water from the Oakmere Lake in the Parish of Oakmere.

(2). To draw the level of Oakmere down 4 feet below the surface of 240.49 feet [above O.D.]. The surface of the water on 13th May, 1925, exceeded this by 10 inches. The Council had therefore at that date 4.86 feet to draw on.

The terms of Agreement are as follows:—

> The Council may lower the level of the surface of the water in the said Oakmere Lake to a point not less than 236.49 feet above ordnance datum, and for that purpose may insert in the said Lake the intake of the main or pipe to a depth of not more than 6 feet below the surface of the water.

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* *whose family had held Abbey property from 1616. His Ancestress, Lady Mary Cholmondeley, had purchased it from the Holcroft family. The Holcroft of 2 generations earlier was one Thomas, an Esquire of Henry VIII. The King granted him the Abbey property when he dissolved the Monastry.*

It is also provided that the Council by means of additional works may raise the water to a height not exceeding 242.49 feet above ordnance datum.*

The Council have also:—

(3) (a) Full and exclusive right and liberty to construct, maintain and use for ever hereafter, on three pieces of land, an engine house, tower and meter house.
(b) Power to lay down, construct, maintain, &c., a water-main (with all necessary appliances) from Tarporley Road into the Oakmere Lake.
(c) Power to construct, maintain, repair and use at all times a roadway extending from Oakmere Lake to Tarporley Road.
(d) To construct any filter bed or filter beds with all necessary accessories which the Council shall consider desirable.
(e) Power to erect a fence or fences round Oakmere Lake.
(f) Power for the Council's Agents or workmen to enter upon the lands of Lord Delamere for purposes of works in connection with the water scheme.

The amount payable to Lord Delamere for all this was £1,000.

Amount of Water Available.—The area of the mere being 50 acres and the difference between the level of the water (on 13th May, 1925) and the level down to which the water may be drawn being (241.35—236.49 =)4.86ft., Mr. Birtwistle, the Engineer-in-Charge of the scheme, calculates on there being 45,000,000 gallons available for the use of the town, "equivalent, apart from any spring inflow, to 100,000 per day for a period of 14 months."

The bed of Oakmere may be compared to a soup-plate, as it has a shallow shelving edge, and the centre deepens rather suddenly. The shelving edge to the eastern side is a coarse, clean sand. The intake of the water is to be from the south-east corner, 121 feet from the shore. The depth of the mere at the point of intake is 9 feet. The suction main will be carried to that point on a piled gangway, and will terminate in a length of pipe lowered vertically into the water and ending in a foot valve 4 feet below the surface. The water will enter the foot-valve from the sides only, and the bed of the mere will be at least 3 feet below any part of the valve strainer. The bed, at the point of intake, consists of sand and gravel. The average depth of the mere is difficult to estimate. Most of the bowl of the 'soup-plate' is about 9 or 10 feet. The bed is peaty except to the south-east (under the intake) where it is sandy as stated.

If this be done, the wood will be flooded, as in former times itwas. The marsh land of Oakmere Common too will be extended.

In the peaty bed there are many deep holes. The deepest is 16 feet or more, situated near the island, on the west side. Mr. Birtwistle informs me that the minute vegetable growths on the sand in the south edge of the mere all lie towards the north-west, evidencing the existence of a current in that direction. He also tells me that the sand of the bed is of so loose a texture that a light iron rod may be passed vertically down into it to a depth of many feet. He is of opinion that the water of the lake is derived from springs situated in this quarter. The springs from which our old water supply is derived, a mile to the east of Oakmere, are perhaps comparable to these. If Oakmere be lowered will our old springs fail?

Dr. A. Strahan has noted that Oakmere occupies a hollow in the glacial drift. Into this hollow there is no natural surface inflow, the lake being fed, apart from rain, entirely from the springs in its bed. Nor is there any considerable outflow from Oakmere on the surface. The north-eastern part of the mere merges into a reedy marsh, and that into a considerable wood from which a stream about 4 feet wide flows; but the bed of this stream is not defined for more than a few yards before it sinks under ground. About 200 yards to the north the water of this stream again becomes superficial, forming a morass called Bowyer's Waste, and thence it is believed to pass subterraneously to contribute to the water at Crabtree-Green which constitutes the Northwich Rural District water supply.

As I have said above, no natural stream enters the mere; but half a century ago an artificial water-course was dug, connecting a swamp called Riley Moss with the mere. The site of the former Moss is the low lying meadow land a hundred yards south of the Abbey Arms Inn, half-a-mile north of the mere. The deep ditch has but little fall in ordinary times and a sluggish current; but it has achieved its purpose in draining the morass. In times of heavy rains I understand the volume of water in this ditch is considerable and the current swift. This makes any possible contamination of the stream important.

There are two obvious possible sources of contamination, the sewage from the Abbey Arms and the Court House near by. In each case there was a septic tank and filter, and in neither case was the arrangement working.

The crude sewage from the Abbey Arms found its way into a field-drain in the meadow that was formerly Riley Moss. The field-drain runs into the aforementioned ditch. I have called attention to this defect, and it has been remedied and the effluent of the filter delivers subterraneously into a soak-away. The nature of the arrangement makes it impossible to see what sort of effluent issues; but Mr. Birtwistle has personally assured me that he has superintended this improvement, and that he is

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Foot note on "to pass"—page 31, line 23.

Mr. Birtwistle states [Sept. 17th, 1926] that this is incorrect. The water passes below the road to form a stream used for power production only at the Crab Tree Green water works.

Foot note on "Morass called Bowyer's Waste"—page 31, line 22.

or, rather, adjacent to the gravel plot called by that name.

satisfied with it, and that there is no pipe connection with the field-drain.

The sewage from the Court House tank had short circuited the filter and broken out direct into the bank. From the "system" a pipe runs into the aforementioned ditch. It has probably at one time functioned, for the ditch for many yards below the outlet of this pipe is full of mud which differs from the contents of the ditch elsewhere. But this pipe seems dry and has probably not functioned for a long time. Contamination, if any, from the sewage in the bank can only reach the ditch indirectly by soakage. The authority which owns the Court House is a law unto itself; but I have called the attention of Dr. Meredith Young to the defect of this so-called sanitary system, and he has made representations for its remedy in the proper quarter.

Not content with these remedies I advised the Council that the ditch should be diverted from the mere. That has been done. A channel has been dug 434 yards long through the wood at the north-west corner of the morass that fringes the mere, and the water of the ditch passes, it must be confessed with but little current, to join the outfall of the mere. Thus there is now once more no stream, natural or artificial, which enters the mere.

Other possible Sources of Contamination.—Mr. Birtwistle, Mr. Hickson and I have inspected the few houses near and have advised the Council, and it has agreed that certain alterations shall be undertaken. This has been easily negotiated as Mr. Birtwistle is Surveyor to the Northwich Rural District, and Lord Delamere is the owner of the properties in question. Thus the sanitation of Sandibrow Cottage has been reorganised, and also that of Corner Farm. Also the mere has been fenced against contamination by cattle.

Quality of Water.—The Analyst's Report when we first embraced the scheme was favourable and he thought no filtration would be necessary, but only treatment for plumbo-solvency. But doubts came later. A communication dated 25th March, 1925, from Mr. Roscoe Brunner, whose house, White Hall, Little Budworth, we had agreed to supply with Oakmere water, raised doubts about its purity. He enclosed a report by Mr. H. E. Evans, one of Messrs. Brunner, Mond & Co's. Chemists, on the chemical and microscopical examination of the water, supported by another from Mesrss. Melling & Ardern on the bacteriological examination of the two samples taken on 17th March, 1925, which threw grave doubts on its purity and suitability for drinking. The albumenoid ammonia was 0.028 (four days earlier it was 0.027) parts per 100,000 [compare Messrs. Melling's

Report the previous year (p. 25) when it was 0.021], and oxygen absorbed at 98 degrees F. in 3 hours was 0.34 [in 1924 it was 0.100]. The water was slightly turbid and contained numbers of minute organisms: the odour was musty. Messrs. Melling reported B. coli in one sample, "positive in 5.0 cc."

I too pointed out that the water has such a peaty and unpleasant taste that few of the people who have lived close to the lake were able to drink it. True, an old woman who lived on an island in the marshy wood half-a-century ago (on which she supported herself on the produce of a few goats) used to drink the water. Further, the daughter of a former keeper, still living in the district, states that she lived hard by the mere most of her life, and that she and the rest of the family always drank it. But the present keeper even when he goes in a boat to the centre of the lake to gather the water, finds it peaty and unpleasant, so he gets his water from the Vyrnwy main, a mile away.

Mr. Melling was asked to make a further examination and he personally gathered samples of water at the proposed point of intake. He found 50 cc. free from any bacillus coli. However on reviewing all the findings Mr. Melling advised the Council (as he had advised Mr. Roscoe Brunner previously) that filtration was expedient.

The Council thereupon resolved to instal filtration apparatus.

Filters.—These are described by Mr. Birtwistle as follows:—

"The plant is to be supplied by the Candy Filter Company, Limited, the quotation of this firm being consderably lower than any other tender submitted."

"The plant is to be suitable for treating 20,000 gallons per hour and the resulting water supply is to be clear and bright, entirely free from suspended matter and colour, guaranteed not to act on lead and without any peaty taste or flavour."

"The plant will consist of three pressure filters, each 9 feet in diameter by 4 feet 6 inches high on the square by 7 feet high over-all, each cylinder to be hydraulically tested to 100lbs. per square inch."

"Filters are to be provided to 3 feet 6 inches in depth with specially graded sand and gravel. For cleansing the filters compressed air is to be used, and for this purpose an electrically driven air compressor by Messrs. Worthington, Simpson, and an electric motor by Messrs. British Thompson, Houston, giving 5 h.p. at 1,440 R.P.M., are to be provided. This apparatus includes all connecting pipes, fittings, valves, tubes, nozzles, etc."

"The chemical treatment is to be provided by three sets of ✗ gravity chemical apparatus to dose the water before filtration

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Foot note on "before filtration"—page 33, last line.

✗ It was later decided to add the silicate of soda AFTER filtration.

with sulphate of alumina, soda ash and silicate of soda respectively. The tanks for the alumina apparatus will be of wood, lined with lead, and all fittings will be of special phosphor bronze to resist corrosive action."

"The tanks for the soda apparatus will be of mild steel plate one-eighth inch thick and galvanized after manufacture. Each apparatus will have a dissolving-tray of teak, covered with phosphor-bronze gauze, and drain fittings, outlet cocks, water-supply piping and valves, and calibrated gauge glass on the upper tank and calibrated arc on the lower tank. The solution is discharged through an end-controlled vulcanite register, supported at the end of the floating arm into the suction pipe of the main pump. A mixing or baffle box is to be provided in the suction pipe line to ensure satisfactory mixing of the chemicals with the water."

"The alumina and soda-ash plants are provided with the object of coagulating fine suspended matter and removing colour from the water, and the silicate of soda plant is to remove plumbo-solvency."

"The plumbo-solvency question and the regulation of the quantity of silicate of soda to be supplied to the water are based on the Analyst's Report as follows:—

> On the basis of three-fourths of a grain required to remove plumbo-solvency, and a quantity pumped of 20,000 gallons per hour = 15,000 grains per hour = 2.14lbs. of silicate of soda. The flow from the chemical tank is 7 gallons per hour, and, therefore, for a run of 8 hours, 56 gallons of solution will be required containing 17.12lbs. of silicate of soda."

"The same principle is to be adopted with regard to the soda-ash and sulphate of alumina, and the quantities will be determined from time to time by constant analyses, arrangements having been made with local manufacturers of silicate of soda and soda-ash, from whom these chemicals will be obtained, for these analyses to be made from time to time without cost to the Council."

"It should be explained that one of the chief objects of the use of sulphate of alumina is to form a gelatinous film on the surface of the filter media which, it is claimed, has a germ arresting effect."

"In order to remove the possibility of delivering an unsatisfactorily purified supply through the filters when newly started up, slow start tanks and apparatus have been provided for in the installation, so that the filters will not be called upon to do their duty until they have been rendered fit to pass the full volume."

"At the close of each day's run it is intended to wash the filters by means of filtered water brought backwards through the filter media, and by a supply of compressed air previously referred to."

"The wash-water from the filters will be conveyed from the filter-house by means of a wash-water channel, and drain into a sump or lagoon formed in the sandy subsoil, where the water will percolate away and leave the washing residue in a condition fit for removal on to land adjacent to the pumping station." ✗

"A Ventruri Meter is to be fixed in the suction main on the suction side of the pumping station."

"The pumping station has been designed to include a recording room, where it is proposed to fix a Venturi Recorder and a sampling apparatus in connection with the filters, so that before and after treament conditions can be noted."

Water Tower, Pumps and Pumping Station.—The water tower is 44 feet high above the ground. The height of the top water level in the tower above O.D. is 310 feet. The capacity is 99,400 gallons. The tower is constructed of reinforced concrete. The concrete consists of Portland cement, washed Mersey sand and broken granite in the proportions of 1 : 2 : 4. It is difficult for a layman to understand why the excellent sand of the shore of the lake could not have been used. Another criticism it is easy to make, after the event, is that as the tank when first filled was porous, the somewhat weak proportions of the concrete was too weak. We are assured, however, that the same strength has given the finest results, elsewhere, and that a lining of nonporous cement will ensure the tank being permanently water tight.

The pumps are two sets of treble ram pumps, each delivering 20,000 gallons of water an hour. Each set will be driven by a 20 h.p. crude oil engine.

The pumping station and filter house will occupy 2,345 superficial feet and the building will be of 11in. brick walls (with solid filled cavity) and strengthening pillars where the walls will be 16in. thick.

The main by which the water is to be conveyed from Oakmere to Over is 9in. internal diameter. It is made of spun cast iron pipes jointed with molten lead. The length of this main is 7,000 yards, and it delivers to the top water level of Whitby's Lane water tower, Over.

The Pressure Reducing Valve at Whitby's Lane Reservoir, Over.—A "Broadhead's valve" is to be provided for the purpose of passing water to the gravity supply to the town from the high pressure main whilst at the same time reserving sufficient pressure or head in the high pressure main to deliver water into the water tower at Over and to reserve a safe pressure for the requirements of the Rural District Council of Northwich (with whom it is agreed to provide water for the townships of Little Budworth and Marton). Mr. Birtwistle points out "that the

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Foot note on "adjacent to"—page 35, line 5.

✗ It was later decided to form the sump 100 yards from the pumping station.

T.W.L. of Whitby's Lane reservoir is 201ft. above O.D. The level of the valve is 192ft. above O.D. The T.W.D. of the new Oakmere tower is 310ft. above O.D., whereas the hydraulic gradient is 261ft. above O.D. The advantages of this valve are that it is largely fool proof and adjustable and an increased pressure on the delivery side of the valve will close off the supply."

Houses in the Area not supplied from the Council's Mains.—The following are supplied by local springs or pump wells:—

2 houses at Spring Bank.
2 at Gale Green.
2 at Beauty Bank.
1 at New Bridge.
The "Blue Bell" Inn, Swanlow.
1 small Farm in Daleford Road.
1 small Farm at Pettypool.
A few houses in Whitegate.
1 Farm on Bostock Road.

There are eight cottages in our area on the Bostock Estate which are supplied by the Middlewich main; whilst the Northwich mains supply:—

Vale Royal Abbey.
7 or 8 houses in Whitegate and Whitegate Schools.

Rivers and Streams:

The presence or absence of pollution of rivers or streams in the area should be noted as also the sources and nature of any such pollution, and any action taken to check it.

In 1924 and 1925 I inspected the brooks that run into the Weaver and endeavoured to trace all possible sources of pollution. I found that the practice of turning the overflow pipes of cesspools into ditches and water cources communicating with the brooks was almost universal. The ditches, however, act as natural soakaways, and this reduces the gross pollution. The Dingle Brook which runs through the town is the most sinned against, much to the deteriment of the water which our gasworks make use of. For instance, in February 1925, I found within a few yards of the Dingle culvert (in Dingle Lane):—

(i). a sewer enters the S.E. side of the culvert, that takes the drainage of the Drill Hall and 6 new houses opposite it;

(ii). a large sewer of unknown origin debouches high up on the bank a few yards to the east of that point;

(iii). the sewage of 8 houses in Chapel Street enters the brook by a common drain a few yards to the N.W. of the culvert; (this has now been remedied and the houses are drained to the High Street sewer); and

(iv). three houses in the north end of Dingle Lane drain by a Council's sewer direct into the north side of the culvert.

There are many other sources of contamination of this brook and the soap-suds of which the gas-works' people complain, which specially discolour the water on Mondays and Tuesdays, are the least of these evils. The gas-works itself has a urinal directly into the culvert by which the stream passes under the works.

Similarly in the Meadow Salt-works, the latrines are built out so as to overhang the running water of the Weaver.

I have already referred to the direct discharge of all the sewage of the old central parts of the town into the river. A row down the Weaver from the north end of the flashes beneath the bridge and for a mile to the northwards reveals the existence of hundreds of pipes, some sewers and drains, but mostly overflow brine pipes running directly into the river just above (and a few below) the water line.

The Wharton culvert also, leaving from the Nun House to the Done Fields stream, has been contaminated by much sewage, but this abuse has been considerably reduced. This culvert was built just after the 1875 Public Health Act, and took the drainage of the Ledward Street houses, then, no doubt, only slop water. I suppose it was not then realised as it ought to be now that slop water IN THE OPEN is innocuous; COVERED (e.g., in a culvert or drain) is 75 per cent. as putrescent as W.C. sewage.

The interim Report of the Standing Committee on Rivers Pollution to the Ministry of Agriculture and Fisheries shews that while tench and carp may live in polluted waters deprived of a high percentage of the dissolved oxygen, yet trout and salmon require for their existence the full saturation of the water. This is a fact of significance probably far wider than its connection with fish. There is reason to believe that a clear and sparkling river has an oxygenating effect on the air of the valley through which it runs. Some explanation of this has been offered, viz:— that it may result from the gaseous exchange taking place in the presence of sunlight between the diatoms and other 'plankton' and the aerated surface water in which they swim. Thus the objections to fouling our river are not æsthetic merely, but highly practical.

My department has consistently set its face against fouling water courses, i.e., fouling the river into which they almost all run. We go on this principle: that all new construction should drain into a proper Council's sewer, or should be provided with a proper septic tank and filter. I conceive indeed, that in purely rural surroundings an entirely sanitary conservancy system is not only possible and economic but is actually desirable. Not only is it possible and indeed easy to deal satisfactorily, as mentioned below (page 42) with the closet-earth; but also, on the principles laid down by Dr. Vivian Poore, the slop-water can always be disposed of, generally without difficulty, and sometimes advantageously for the cultivation of land.* Dr. Poore used to point out that the more water you foul the more you have to purify, and that is a very telling argument against the senseless and thoughtless insistence on the establishment of water-closets in rural areas. In country places the cost of the type of sewage scheme necessary for a closely built urban area is quite prohibitive.

Our advice to the Council is therefore that a town plan should be thought out in which the area to be sewered is carefully considered and agreed: that a periphery or rural zone should be preserved surrounding the sewered area, and that all houses built in this zone should find their own sanitary salvation, either by a really workable septic tank and filter system, or by an approved conservancy system. There should be a limit to the demands on the Council for sewerage. Cost and rising rates call for forethought in this matter. Bit by bit the town extends along main roads into the country parts, and the sewer creeps out—"ribbon development"—and the town tends to squander itself in a kind of pathological growth penetrating and enclosing tracts of the countryside. If these tracts preserved rural amenities, that would be a set off against the expense of this method of growth. But they do not. They become "back land" and too often sites for slums. To counter this tendency the Council should appoint a townplanning committee to delimit its sewage commitments both in time and area, that is for a term of years and for a central agreed area. Houses to be built within the central area should, by regulation, be required to preserve a fixed proportion between their cubic content and their curtilage, a proportion not to be diminished by later additions. That would prevent congestion and the creation of slums. Outside the central area the requirement would be enforced that each new house should provide its own sanitation without fouling water-courses. Without some such forethought, modern knowledge and requirements spell a steady growth of rates that will bear too heavily on the domestic budget and on manufacturers' overhead costs.

The thing to do is to realise that the work of the committee I propose is really more vital and urgent than the many little day to day matters which seem of more immediate importance but which both crowd out the larger business, and steadily create the very abuses which it is the object of that business to prevent.

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* "*Economic Disposal of Excreta: garden sanitation.*" *L. J. Picton, British Medical Journal, 9th Feb.*, 1924.

Drainage and Sewerage.

Character and sufficiency of the arrangements for drainage, sewerage and sewage disposed in all parts of the area.—There are seven groups of sewers, five of which are shewn in the sketch map of sewers in my 1919 Report. These groups are:—

i. THE MAIN SEWERS OF OVER.—Their northernmost point was the flushing tank in Chester Road, rather over a quarter of a mile beyond Littler Lane. In 1925 this sewer was extended, N. by W. for a distance of 100ft., so as to take the sewage of new houses on that length. To the west-south-west the sewer extends about half-a-mile along Woodford Lane, and to the S.S.E. it reaches the corner where the unadopted portion of Gladstone Street enters Swanlow Lane. These three lengths of the sewer unite at the lane ends near the Wheat Sheaf, and thence the sewer runs down High Street, gathering tributaries from the streets on either side of High Street as far as Clough Hill. Then it turns southwards and crosses the Clough by an aqueduct carried on a gantry, and is led into Weaver Street, down which it passes for some 300 yards before it turns south to the filter-beds on the left bank of the river Weaver, 1,220 yards from the Winsford Bridge.

In 1922 a new branch sewer was laid in the southernmost length of Grange Lane; but in order to reach the main sewer it had to pass west of the houses on the west side of the entrance to Grange Lane, as the level of the Lane in that length is below that of the High Street sewer. A number of new bungalow-houses have been built in this lane and drain into this sewer.

ii. THE MAIN SEWERS OF WHARTON.—These commence in Crook Lane and run north and south along it from a point near the Council's Housing Scheme. Along School Road and Station Road respectively the two branches turn westwards. At the end of School Road the northern sewer turns southward along Ledward Street and runs due south along the footpath by the Recreation Ground and so joins the sewer in Station Road. The single sewer then passes south-westwards down the fields to the filter-beds on the right bank of the Weaver a mile from the bridge.

In 1922 a new length of 9in. sewer, extending the Station Road sewer, was laid 370 yards from the corner of Crook Lane to the Albert Infirmary gate.

iii. The old sewers direct to the river draining the old central parts of the Over side of the town below Clough Row.

iv. The similar old sewers on the Wharton side, draining Winsford and Gravel Hills.

v. Various sewers which drain into Dean Brook or into the culvert which leads it through the gas-works to the river.

vi. The Littler Lane sewer in Over which drains into a tank in Mr. Sherwin's field—a perennial source of trouble.

vii. The Meadow Bank sewers which, with the exception of that from the School, run direct to the river.

The more modern sewers are 9in. glazed earthenware pipes. On account of subsidence it is customary to make the joints of clay.

The most modern sewer, other than those in Grange Lane and Station Road west of Crook Lane just mentioned, is the Station Road sewer east of Crook Lane. That was laid in 1913.

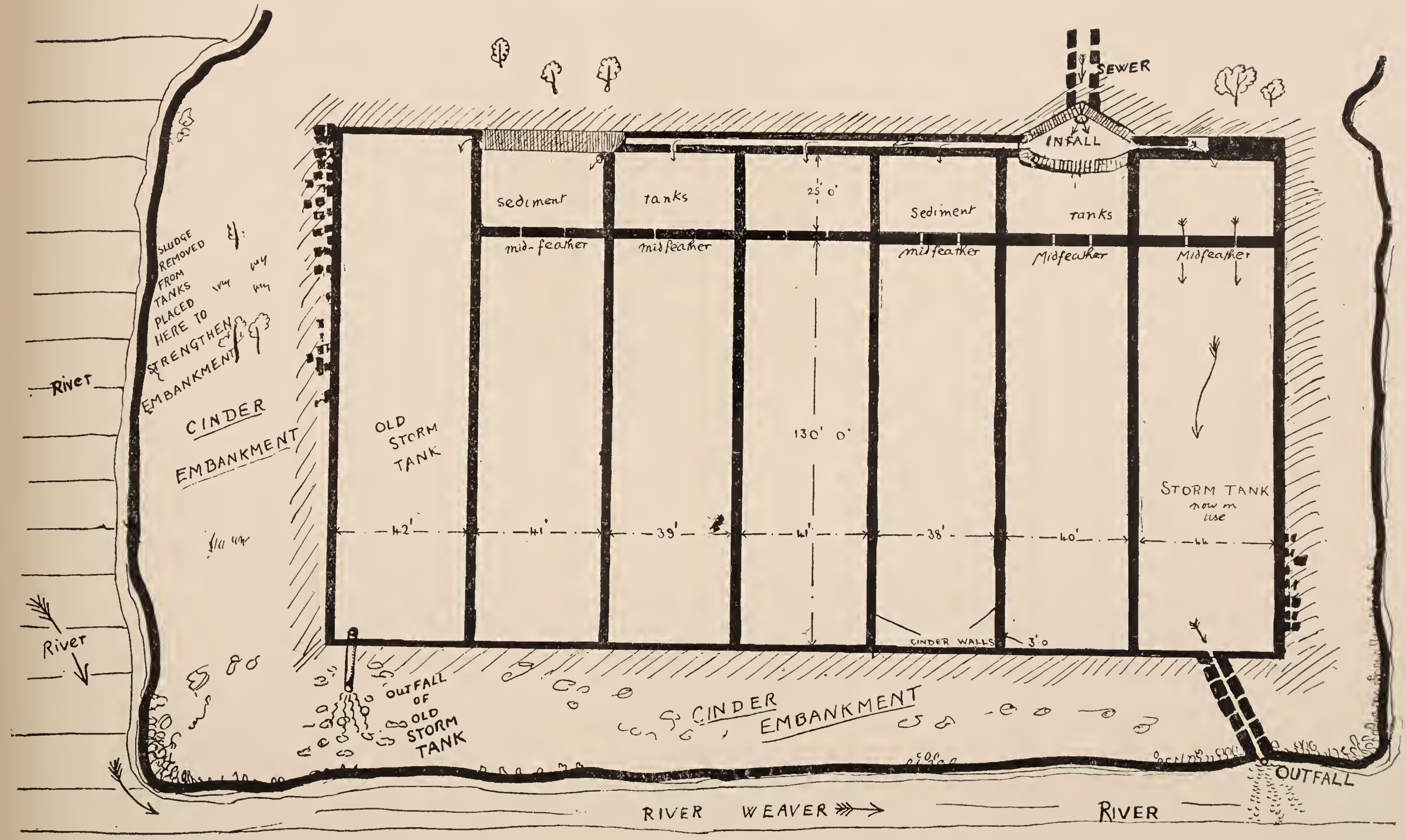
Some of the sewers are very old. The change-over from conservancy to water-carriage in respect of the 822 cesspool privy nuisances, which change-over the Delamere water scheme will make feasible, will be attended by the need to make these old sewers good, and in not a few cases doubtless to entirely relay them. The increased volume of sewage that will result implies a further problem, namely, its disposal. I refer to this (p. 41).

Rainwater runs from Delamere Street by a 'separate system' into the valley. Also in High Street the rainwater runs in separate sewers under the channels at the roadside to the river and this is the case too in the John Street and Well Street neighbourhood. In part of Weaver Street in Ways Green and Gladstone Street and in Station Road, Wharton, the rainwater is dealt with in the 'combined system,' that is, it runs into the ordinary sewers.

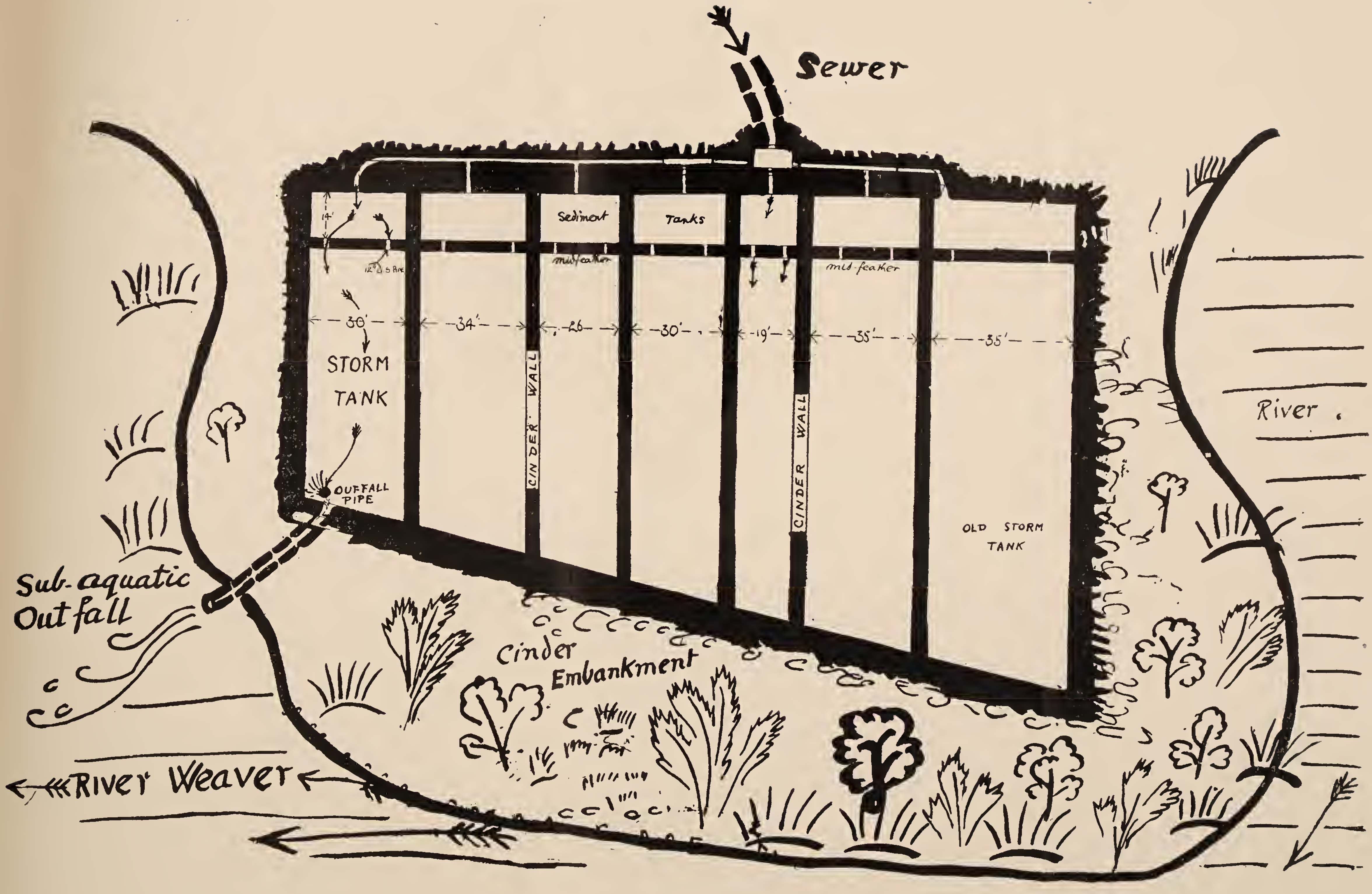
Sewage Disposal.—This, in Winsford, is of two kinds. In regard to sewers in groups i and ii the sewage is disposed of by the filter beds. In regard to almost all the rest it runs direct to the river. I have mentioned the sites of the filter beds. They are now much as Dr. Garstang described them in 1910:—

> "According to the point of view either the best and cheapest in the kingdom, or as practically non-existent. There is of course, a separate outfall for each side of the river. Each delivers crude sewage on to a large bed of cinders, whose surface is two or three feet above water level. The bed of cinders itself stands partly in the bank and partly actually in the water. The sewage percolates though the cinders in a manner which makes it impossible to take a

SKETCH PLAN OF OVER FILTER-BED.



SKETCH PLAN OF WHARTON FILTER-BED.



sample of effluent for analysis, and leaves a deposit of solid matter on their surface. This is raked or scraped from time to time and fresh cinders are periodically added to the surface, as the bed gradually sinks into the river. Occasionally, but not frequently, there are complaints of bad smells."

The sketch plans (p. 40) shew the beds as they are to-day. In rainy weather sewage rushes from one of the beds, called the 'storm bed,' direct to the river. For some feet round and below the beds the river is discoloured.

With regard to the increasing demands for sewage disposal which the mounting numbers of closet conversions to water carriage are making and will continue to make, it can only be said that any extension of this incomplete and partial method of purification will be tantamount to increasing the fouling of the Weaver. The great volume of water in the flashes, which must wash down the Weaver, provides at once the excuse usually offered and the explanation of the absences of gross offence resulting. Some coarse fish live in the river, but the oxygenation is not good enough for trout.

The sewage conveyed by the sewers in groups iii, iv and vii almost in every instance runs frankly into the river. This abuse is of very old standing. An intercepting sewer on each side of the river delivering far below the town on to sewage beds would be essential to remedy it. And I question whether the provision of beds of the same type as those now in use would really save the oxygenation of the river much, though they would reduce its gross contamination.

Closet Accommodation.

Privy, Water Closet and other Closet Accommodation and approximate number of each type.—

	1919 (end)	1925 (end)
Cesspool privies * (actual number)...	1,039	822
Water-closets (estimate)	1,147	1,392
Peat-pail closets (actual number) ...	500	576

Note.—For a description see page 42.

The policy acted upon consistently is to convert the cess-pool privies to water closets, where a general sanitary improvement of the property can be undertaken concurrently, and as opportunity offers. Progress has not been rapid since the war on account of the high costs, difficulty of obtaining labour and anxiety as to the adequacy of the water supply. Still the above figures shew that some progress has been made. In the case of almost every conversion, a thorough reorganisation of the property has been carried out—yards paved with blue brick grouted in cement; the old distant privy dismantled and a water closet built nearer the house; and proper wash house provided, with slop stone and channel and gulley, and a washing copper. The whole of this work has been due to the negotiation of the Sanitary Inspector and compulsion is not brought into play. There have been a few conversions to peat-pail closets, notably on Over Terrace.

There are few or no earth-closets proper. This is regrettable. No system is more suitable to a rural neighbourhood, such as the outlying parts of this district, than properly managed earth closets. On p. 17 of my 1919 Report I gave a scale drawing of a type which answers well and has stood the test of many years' trial. Many houses are needed in the north-eastern parts of the district and no system of sanitation would be at once so suitable and so cheap as that, provided only that the cottages were built detached; that the land around them were treated as a garden, most of it preferably as a single garden, for which a head gardener would be responsible and for which the closet-earth was daily used as manure. The freedom from offence of this system and the fertility of the gardens must be seen to be understood. "Much food is in the tillage of the poor: but there is that is destroyed for want of judgment."* The enrichment of gardens which follows the system advocated, for rural places, seldom is seen in this country; but its source is "destroyed for want of judgment." In this connection the writings of the late Dr. Vivian Poore, F.R.C.P., F.R.S., notably his volumes "Rural Hygiene" and "The Dwelling-house," supply invaluable information.

* *Proverbs, Ch. XIII, v. 23.*

Scavenging,

The character and efficiency of the arrangements for the removal and disposal of house refuse and the cleansing of earth closets, privies, ashpits and cesspools in the area.

CESSPOOL PRIVIES:—This type of closet is somewhat different from the usual privy. Dr. Garstang, my predecessor, stated that the authority encouraged them in preference to water closets up to 1896 with a fear (which was certainly justified) of difficulty of sewage disposal. Unfortunately the authority selected and sanctioned a bad type of conservancy closet. Dr. Garstang (1910) describes it as follows:—"The receptacle is sunk in the ground and is not confined to the area under the seat, but is prolonged under or through the side wall into the back-yard. This part is covered with stone or with timber. Its object is to afford means of access to the scanvenger. Frequently it receives rainwater from the privy roof or even from the yard surface, so an untrapped overflow pipe is laid connecting it with the nearest sewer. These receptacles are locally called "cesspools," but this is a specialized use of that word."

These "cesspools" are emptied under contract, at night, every 8 weeks. The manure is used on the contractor's land.

Peat Pail Closets.—The pails are emptied by labourers directly employed by the Council, partly in the day time and partly in the early hours of the morning, once a fortnight. The pails are cleaned and charged with a little peat as a deodorant. The manure is deposited at three farms, two within the district and one outside. At the last-named farm, wheat is grown with great success with the use of this type of manure. Heavy crops, of good quality grain and straw, are realised (see further pp. 46-7 below).

Cesspools.—Cesspools proper are dealt with according to the following list:—

Two cesspools at Meadow Bank, receiving the drainage of 16 cottages at Castle Terrace, and 13 cottages in School Road: Emptied once each two weeks, and contents distributed on land in the area by employees of the Salt Union. (Pail closets are in use).

One cesspool at Bradford Mill Farm, receiving the drainage of 11 cottages: dealt with as above by the Salt Union (pail closets).

One septic tank connected with the Meadow Bank Schools: emptied when required by the Urban Council's men.

One septic tank at Rilshaw receives the drainage from 6 houses: emptied when required by the owners of the property, and contents distributed on land in the vicinity.

One cesspool on land off Middlewich Road receiving the drainage of 6 houses: emptied when required by the owner of the land, and distributed on the field adjoining.

One cesspool at Shaw's Lane receiving the drainage from 11 cottages: emptied by the owner and contents distributed on fields in the area.

One cesspool on the farm land of C. Bebbington, Swanlow, receiving the drainage from houses at the east end of Swanlow: emptied by the farmer and contents distributed on his land at the expense of the Council.

One septic tank at Swanlow receiving the drainage from the Old Star Inn and 2 cottages adjoining: emptied when required by the owner.

Two cesspools in Swanlow near the Vicarage receiving the drainage of 5 houses: emptied by the Council's men once each fortnight and contents taken to the night soil depot.

One cesspool at the Vicarage, Swanlow, emptied once each fortnight by the Council and taken to the night soil depot.

One cesspool at Littler Lane receives the drainage of about 26 houes: distributed on the adjoining field.

One cesspool in connection with the Darnhall Schools and School House: emptied when required, contents distributed on adjoining land at the expense of the School Management.

EARTH CLOSETS.—Nil (see above p. 42).

ASHPITS, ASHBINS, AND DISPOSAL OF HOUSE REFUSE.—Ordinary ashpits are emptied by direct labour once each month. Covered galvanized ashbins are now demanded by a local regulation, dated 1914, and are extensively used. The bins are emptied by Council employees once a fortnight or oftener if required—but I have noted above the difficulty there is dealing with the large amounts of ashes and cinders (see p. 19). The contents of the bins have been used, chiefly, to raise the dockyard, which was land formerly valuable, but much sunk. The land belongs to the Council. During 1925 forty-five new bins were supplied. The whole control of scavenging is now under the Surveyor, the Inspector having been recently released from the part which he formerly did. It was not proper inspectorial work and was incompatible with his real duties.

Sanitary Inspection of the Area:

Classified Statement of the number of Premises visited, the defects or nuisances discovered, and the action and result of action taken in regard to these:—

being

Report of Sanitary Inspector under Act 19 (12) of the Sanitary Officers' Order, 1922:—

Nature of Inspections made.	No. of Inspections.	Notices.			
		Statutory.	Informal.	Notices complied with.	Remaining in hand.
1. Dwelling Houses, General Inspections	95	—	31	22	9
2. Cellar Dwellings, of which there are none	—	—	—	—	—
3. Back-to-Back Houses (16), all occupied	52	—	14	12	2
4. Tents, Vans, Sheds, etc., 4 in regular use; the others mostly on Fair Ground, etc., in travelling shows	78	—	2	2	—
5. Courts, Yards, Passages ...	95	—	28	22	6
6. Cesspool Privies (822), and Peat Pail Closets (576)	2828	—	51	42	9
7. Cesspools (14)	36	—	8	6	2
8. House Drainage	107	—	43	34	9
9. Ditches, Watercourses, etc ...	18	2	3	3	2
10. Offensive Accumulations ...	26	—	24	24	—
11. The Keeping of Animals, P.H.A., 1875, Section 91 (3)	18	—	4	4	—
12. Offensive Trades (1 Tripe Dresser,	18	—	2	2	—
12 Fried Fish Shops) ...	24	—	7	7	—
13. (*a*) Slaughterhouses (Public) Nil	—	—	—	—	—
,, (Private) 15 3 Registered, 12 Licensed ...	180	--	6	6	--
(*b*) Other Ploces where Food is produced or sold (Chip Potato Shops, etc.)	34	—	8	8	—
14. Piggeries	26	—	4	4	—
15. (*a*) Dairies (*b*) Cowsheds (*c*) Milkshops } 88	176	—	176	160	16
16. (*a*) Factories, 41 ... (*b*) Workshops, 100 ... (*c*) Workplaces, Quays, etc., 12 }	162	—	14	12	2
(*d*) Outworkers' Premises (1 Clothing Finishing, in 2 Houses) ...	12	—	—	—	—
17. Bakehouses, Overground 18 ...	108	—	4	4	-
,, Underground 1 ...	8	—	—	—	—
18. Common Lodging Houses 1, not being used ...	—	—	—	—	—
19. Houses let in Lodgings (Nil) ...	—	—	—	—	—
20. Smoke Observations	10	—	10	10	—
21. Canal Boats (Nil)	—	—	—	—	—
22. Infectious Disease, Inquiries and Revisits	716	--	—	—	—
23. Miscellaneous, including Ashpits, Refuse Heaps, etc.	302	—	64	42	22
TOTALS	5129	2	503	426	79

THOMAS HICKSON, A.R. San. I.,

Sanitary Inspector, Winsford U.D.

Smoke Abatement :

Action taken.—Nuisance occasionally arises from salt factory chimneys emitting excessive volumes of smoke. The owners, on their attention being called immediately abate the nuisance.

Premises and Occupations which can be controlled by Bye-laws or Regulations :

Character.	**Number.**	**Action taken or needed.** No. of Inspections.	Informal Notices.	Complied with.
Offensive Trades—				
Tripe-dresser ...	1	12	2	2
Fried Fish Shops ...	12	52	4	4
Houses Let in Lodgings—				
Houses let in lodgings	nil.*			
Common lodging-houses	1		(not in use)	
Underground sleeping rooms	nil.			

* *There is, however, a house in High Street which has been divided into 3 flats, 2 on the top floor and 1 on the first floor. A shop occupies the ground floor. They are in fair repair, fairly commodious, but rather dark.*

Other Sanitary Conditions requiring Notice :

Where in a row of houses, undetatched, in the old established parts of the town, water closets are installed in place of the old privies, there are two ways of connecting the drains with the sewer in the street, either by using the existing slop-water drains which almost invariably pass under the houses, or by reorganising the sanitation of the whole block, making a party drain or common sewer in the back yards or better in the back land behind the back yards, taking the drains to that instead of under the houses, and bringing the party drain or common sewer into the main sewer through the nearest available bye-lane, open yard or entry. If the drain be brought under the house, it ought to be embedded in concrete (1 : 2 : 6) and that is an expensive and unsatisfactory business—unsatisfactory because of the possible fracture of the concrete, and of the difficulty and cost of gaining access to the drain. A case in point arose in the property opposite the Guild Hall; but the negotiations failed. It would pay all parties, Council and owners, each to bear their share of the cost of the improvement; for the value of the property would be appreciated thereby—including the change-over from insanitation to sanitation. But economic pressure tells heavily on the side of the penny-wise scale.

Sale of Peat Pail Manure.—In May, 1925, I arranged a contract between a farmer who resides just outside the district, but who holds and farms Bradford Mill farm within it, to purchase the closet manure (peat pails) of Meadow Bank and part of Wharton at £10 a year for 8 years. The original intention was that he would concrete the site for a dump, and it was agreed that part of his payment should be remitted in view of the expense of that. The site for the dump (at Bradford Mill) was found however, to be on springs, and the idea was given up, the manure being carted to the purchasers' farm beyond the borders of the district.

The collection and cartage is, as heretofore, at the expense of the Council; but this is the first time that we have secured an actual market for the manure. Doubtless its agricultural value is greater than the small sum paid ; but prejudice and objection depreciate the sale value. A beginning has, however, been made; and it is to be hoped when the crops produced are seen and known a more adequate price may be obtained.

Refuse Sorting.—There are possibilities of realising some fraction of the money-value of a town's refuse. If pig food (potato peelings and scraps) and putrescrible rubbish were kept separate from ash and cinders; and if again paper were collected in one receptacle and old tins in another, something could perhaps be done. The late Surveyor did for a time arrange that the dustmen should take a paper-sack with the dust cart. It was suggested that the paper should be sold for the benefit of the Infirmary. The practice, however, fell into disuse. In my view the habit of sorting refuse at its source is salutary and any small monetary returns are of this much value that they tend to encourage the practice. Our new Surveyor has not been long in office; but I hope that when he has 'got into his stride' he will find time to pay attention to this little matter: a little matter, but one that has much influence on the order and neatness of the poorer quarters and on the fly nuisance.

Schools :

Sanitary Condition and Water Supply.—The sanitary condition of the Schools and their water supply is good. The Whitegate Schools have the Northwich system water. The rest have the Winsford water.

Minor defects to the lavatories at the High Street Schools and a window in a stuffy classroom at Wharton Church Schools have been pointed out by me and remedied by the Education Authority.

Action taken in relation to the health of the scholars and for preventing the spread of infectious disease.—When scarlet fever or diphtheria breaks out in a school and it seems that the school is the source of infection, I visit it and inspect the contacts and sometimes the whole school. E.g., in March, 1925, I found three children in the High Street Schools who were peeling and isolated them. They had been ill supposedly with measles. In February, 1924, there were seven scarlet fever cases in connection with the same school, and on 26th February I found and isolated two more children in the school who were peeling. On p. 66 I describe other similar instances. These inspections are of value in suppressing epidemics.

Altogether I have made a good many of these inspections and in the course of them I have been so impressed with the frequency of chronic minor infectious disease among the children that I made the proposal for a minor treatment clinic to Dr. Meredith Young in October, 1925, which is stated in page 21 above.

HOUSING.

(I) General Housing Conditions:

(1).—General Housing Conditions:—

Number of houses:—

Total number	2,554
Inhabited houses at 1921 census	2,439
Houses demolished since 1921	nil.
New houses built since 1921:—	
Built in 1922	17
1923	21
1924	46
1925	31
Houses empty since 1921:—	
In 1922	3
1923	3
1924	5
1925	2
Nett inhabited houses in 1925	2,541

The rental of about 1,900 houses is £12 a year or under, and of about 450 houses is between £12 and £20.

Thus we have a house for about every four inhabitants and four-fifths of the houses are low rented.

(2).—(a) **Extent of Shortage or Excess of Houses.**

In 1919 I reckoned that 40 or 41 houses were then required and that the number of new houses needed in an average year, apart from the exceptional conditions then prevailing, to meet the increase of population would be 8. Between then and now, therefore, according to my anticipation of the requirements, some 90 houses would have been needed. As a fact 115 have been built.

As for excess there is none; only two houses are vacant

(b) Measures taken or contemplated to meet any shortage.

The Council built 10 houses in Crook Lane, Wharton, in 1921. The cost of building at that time was high; and as private building, plus the £75 subsidy from the Ministry of Health, has shouldered the burden of providing houses in a far more economic fashion, the experiment is not likely to be repeated. As the new houses are much better and cheaper than the immediately post-war ones (under £500 as against £1,000 are roughly the contrasting prices), there is every prospect of private enterprise continuing to solve the housing problem in Winsford. The new houses are built, mainly, on the bungalow principle.

(II) Overcrowding :

(1).—Extent.

Overcrowding persists—despite the new houses. These are not for the class of people who live in overcrowded houses, The new houses could not be let at a rent within their means. Nor would the owners be willing to let the houses to this type of tenant. But new houses for any class must free the vacated houses, and the situation is certainly far better in regard to overcrowding than it was in 1919. These figures in respect to scarlet fever patients 1924 do not suggest severe overcrowding:—Out of 57 cases, in 33 there was 1 person per room in the one house, in 22 there were 2, and in 2 there were 3.

(2).—Causes.

These are implicit in the above statement.

(3).—Measures taken.

The Council's Housing Scheme of 1920 and the subsidy houses since.

(4).—Principal cases of overcrowding during 1925 and action taken.

In no case has specific action been called for. In 1924 I have the following note in connection with a youth with phthisis whom I sent to Wrenbury in January 1924. I transcribe it, as it illustrates an instance of our overcrowding problem:—"Sputum reported + . The house has 4 rooms, 9 occupants (parents, 2 grown-up sons including the patient, 4 children and a baby). I understand a fixed window in the front room downstairs in being made to open. The house is fairly roomy and very fairly kept. The patient being now in hospital, the house is no longer technically overcrowded; but obviously such a family should have 3 bedrooms. There are 3 beds, one for the parents and baby, one for the young men, one for the four children, the last two beds being in the larger room."

(III) Fitness of Houses:

(1).—(a) General Standard of Housing in the Area.

As the rents are low, mostly under 6/- a week, it will be understood that the accommodation provided is simple. Two ground-floor rooms, living room and small scullery, two bedrooms, a washhouse across an open yard, and a cesspool privy at the bottom of a strip of garden—that was the prevailing type. The yards were paved with cobble-stones on to which the wash-tubs were emptied. In the vigorous campaign of 1911 and 1914 the present Inspector, under my predecessor, achieved the reorganisation of no less than 671 of these old houses. The cesspool privy was the primary objective; and strategy was used in approaching the house-owner. "A bare order to convert would probably have resulted in the erection of an inferior type of water-closet on the same site and nothing more. What has actually been obtained" Dr. Garstang wrote, "by negotiation and persuasion is the abolition of the privy building, the site being added to the yard; the erection of a first-class closet and washhouse, contiguous to the scullery; and general improvements including paving" (with blue brick grouted in cement) "and draining the yard and provision of trapped gulley, provision of slopstone and waste-pipe and general repairs to house."

This process, arrested by the war, has been resumed though with slower pace since. To the 671 dealt with before the war, 224 have now been added; and *those restored 895 houses constitute no mean monument to the labours of our Inspector.* The plan and layout of the property may be out of harmony with the best knowledge of to-day, it is true; but they are dwellings in which it is possible to carry on domestic life in a clean and sanitary fashion. This property is in good sanitary repair and the inhabitants contented with it.

Eight-hundred-and-twenty-two remain to be dealt with. Of the new buildings, many of the bungalow type, I have already spoken (p. 49). They are naturally more varigated and ambitious than the cottage property I have just referred to; but many have the supreme advantage of being detatched, of letting in much more light and air than the old kind.

It does not seem beyond possibility that a simplified type of bungalow. at least as well constructed as these, may in in the future be built at a lower cost. Grouped round the ends of short blind drives leading from the roads, so as to open out back land, and drained by a party drain through garden ground, they could be let at an economic rent which an artisan with a moderate wage could pay.

In dealing with such groups of houses, each house may be arranged to face the sun without blocking the light of its neighbour. This is easily achieved by setting the rows of cottages in echelon. The resulting layout is a diamond-shaped group of cottages surrounding the dead-end of the drive. The windows should be at least an eighth of the floor space. Facing the living rooms (not the best parlour only in which nobody lives) to the sun, i.e., to the S., E., or W., is a simple means of health and costs nothing. Placing the bungalows round dead-end drives may do something to counteract the apparently irresistable fascination which makes those who construct house property turn the 'front' to the street, quite oblivious of whether, by so doing, they are turning it so that the sun will never enter the room on any day in the year.

Each cottage should be built on a raft of very good concrete (not a mixture of sand and brick-ends with a little cementaceous material which so often goes by that name). The cement-concrete raft, 6 inches thick, rammed solid, and the surface grouted over with cement, is worth all the other damp-preventing devices put together. The walls may be built on its edges. The house floats upon it, as one thing—an added advantage in a subsiding area like ours.

(b) General Character of the Defects found to exist in Unfit Houses.

Damp floors, due to the fixed belief of the old builders (and many modern ones) that a foot or so of cinders under the floors ensured dryness.

Damp walls.
Want of a third bedroom.
Fixed windows.
Too small windows.
Cesspool privies.
Ill-paved yards.
Leaky roofs.
Dilapidations.

It is very possible that the dampness of the houses built by the late Mr. Falk, at Meadow Bank, of clinker ("basses") would not have been noted at all if they had been constructed on impervious cement-concrete rafts. The chief functions of a wall, to be a wind screen and to insulate, may well be performed by the "basses." I should like to see the experiment tried again, but this time with a concrete raft below the houses and a specially good roof above them. The surfaces of the walls would have to be rendered with cement.

(c) How far Defects are due to the Lack of Proper Management and Supervision by Owners, or to Acts of Waste or Neglect by Tenants.

They are due to neither in Winsford, but to the economic difficulties of remodelling old property. The Council by sanctioning, in a few instances, the erection of houses in an already closely built area, in a proportion of 19 or 20 to the acre—acting under pressure of the owners of the land—is deliberately and with open eyes acquiesceing in the creation of further houses of a type that is far below present day standards and which contravenes our elementary housing canons. Quis custodiet custodes ipsos?

(2).—General Action taken as regards Unfit Houses.

(a) Under the Public Health Acts.

Thirty-two houses were inspected and found defective. The defects were remedied in 22 and 10 are in hand.

(b) The Housing Acts.

Nil.

Housing Statistics for the Year 1925.

Number of new houses erected during the year :—

(a) Total (including numbers given separately under (b).	31
(b) With State assistance under the Housing Acts :	
(i) By the Local Authority ...	nil
(ii) By other bodies or persons ...	31

1.—Unfit Dwelling-houses.

Inspection—

(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	32
(2) Number of dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910. or the Housing Consolidated Regulations, 1925	32
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation ...	0
(4) Number of dwelling-houses (exclusive of those referred to under the preceding	

sub-heading) found not to be in all respects reasonably fit for human habitation	32

2.—Remedy of Defects without Service of Formal Notices.

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their Officers	22

3.—Action Under Statutory Powers.

A.—*Proceedings under Section 3 of the Housing Act, 1925.*

(1) Number of dwelling-houses in respect of which notices were served requiring repairs	Nil.
(2) Number of dwelling-houses which were rendered fit after service of formal notices :—	
(a) by owners	Nil.
(b) by local Authority in default of owners	Nil.
(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intentions to close	Nil.

B.—*Proceedings under Public Health Acts.*

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied ...	Nil.
(2) Number of dwelling-houses in which defects were remedied after service of formal notices :—	
(a) by owners	Nil.
(b) by local Authority in default of owners	Nil.

C.—*Proceedings under Sections 11, 14 and 15 of Housing Act, 1925.*

(1) Number of representations made with a view to the making of Closing Orders	Nil.
(2) Number of dwelling-houses in respect of which Closing Orders were made	Nil.
(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit	Nil.

(4) Number of dwelling-houses in respect of which Demolition Orders were made	Nil.
(5) Number of dwelling-houses demolished in pursuance of Demolition Orders	Nil.
(6) Number of dwelling-houses demolished voluntarily without Demolition Orders	Nil.

(3).—Difficulties found in remedying unfitness, either under the Public Health Acts or under Section 3 of the Housing Act, 1925; Special measures taken or suggested including for example any special action to secure improved management of property by owners, or better care of property by tenants; the gradual carrying out of repairs according to agreed arrangements; or any special method of dealing with unfit back-to-back houses or other types of insanity property.

These points largely have ben dealt with on pp. above. With regard to back-to-back houses of which there are 11 in Shaw's Lane, Over, an arrangement has long ago been made with the owners for their conversion into 6 good houses, which they originally seem to have been; but our difficulty is this:—the tenants will not budge. We cannot evict. We have no temporary alternative accommodation. We await the first opportunity of a vacancy to initiate the remodelling scheme.

(4).—Conditions, so far as they affect housing, as regards water supply, closet accommodation and refuse disposal together with measures taken during the year in these matters.

How the closet reconstruction is the key of Mr. Hickson's activities in securing improvements has already been told (p. 50).

The enormous ashpits, made of old boiler plates for the Meadow Bank cottages have always been a bone of contention. Each served a number of houses. Their contents frequently overflowed and complaints were received The substitution of moveable ashbins was mooted; but the owners having repaired the pits at the Council's request could not see their way to acceed. Finally the matter was settled by the Council arranging to have them emptied more frequently.

(*IV*) *Unhealthy Areas:*

Information as to complaints or representations made made and action taken in regard to unhealthy areas.

I know of no area that can be so described. Of course we from time to time have the complaints about particular houses and these are dealt with on their merits. Only two houses have been seriously incriminated in the year, viz.: one of the Shaw's Lane back-to-back houses aforesaid, to which some patchwork has been done; and a house in Delamere Street which has been dealt with.

(*V*) *Byelaws relating to houses, to houses let in Lodgings, and to tents, vans, sheds, &c.:—*

(1).—As to working of existing bye-laws.

There are none on building, the Ministry as stated above pp. 26-7 having withdrawn the old ones as too out of date. At the suggestion of the Ministry the intermediate series of model bye-laws is under the Council's consideration.

We have bye-laws for the regulation of common lodging houses (1877), but these are not under test at present as the one lodging house is not in use.

As for tents, vans and sheds we have so far had no serious difficulty; no "bungalow town" confronts us, as at Shoreham, for instance, on the South coast. But several bungalows have been put up for summer use on the west bank of the Bottom Flash, and the use made of these as habitations will have to be watched and if need be regulated.

(2).—As to need for new bye-laws or revision of existing bye-laws.

This need I hope will shortly be met when the Council completes its examination of the intermediate series of model bye-laws. I trust that a very stringent rule will be laid down that every dwelling must be built upon a concrete raft of impermiable quality. The mixture probably should not be weaker than 1 : 2 : 3; and even so the surface, I think, should be of some special texture perhaps a 1 : 2 cement, perhaps a bitumen.

We have a large death rate from heart disease; and a much larger invalidity rate from it. Dampness of houses is pointed to by the report of the B.M.A. Committee on Rheumatic Heart Disease as one of the principal causes.

In my 1921 and 1922 Reports I laid stress on certain of the other factors in producing the disease (1922 Report pp. 5-6)—the personal factors, the factors which operate from within. This old and proverbially recognised factor of dampness operates from without. The B.M.A. Committee may almost be said to have rediscovered it, certainly to have given it a scientific authority which it never had before.

The Committee states that the disease begins as a rule between the ages of 6 and 16 in children who live in damp houses. Children of the wealthier classes almost never get it. Dr. Attlee, the Medical Officer of Eton College, says that despite the low lying site of that School, rheumatic heart disease is almost unknown. You may live by the water and not get it so long as your house itself is dry and that depends not on the walls, not on damp courses, not on the roof, but on whether something intervenes between the house and the damp ground air which the warmth of the house otherwise draws into it, as a chimney draws the smoke.

Until that is realised and the raft of cement becomes an adamant bye-law we shall go on having this crippling, invaliding, killing rheumatic carditis amongst the artizan classes of our people.

I use the word "artizan" classes advisedly; for a very strange point emerges from the B.M.A. Committee's work. Though the children of the well-to-do almost never get the disease and the children of artizans often get it, the children of the very poorest class are almost as free from it as the children of the rich. Why that is so can only be conjectured. They are certainly exposed to damp too, but the other circumstances of their lives may be so harsh that they either die in infancy or become immune. Be that as it may, this definite fact is established that damp dwellings are an important cause of rheumatic carditis (heart inflammation). There are other causes than this that contribute to the disease. It is not the single-handed cause. But it is certainly one cause, perhaps the most important, and it is entirely preventable.

(See also p. 51).

(VI) *General and Miscellaneous:—*

Generally an account of any action bearing on the public health, not covered by the above particulars, which has been taken during the year by the local Authority in connection with overcrowding, insanitary property, and housing, whether under the Housing Acts or the Public Health Acts, including any action taken by the Authority to provide information as to the proper use of household fittings (e.g., sinks, water closets, etc.) and the disposed

of household refuse so far as possible by burning.

The Authority has taken no action in the matter of providing any special information as to the proper use of household fittings, other than the gas cookers and boilers, and special burners provided by the Gas Department, and the necessity for the provision of washers for leaky water taps.

All the other matters under this heading, except one have been dealt with in preceding paragraphs. That one is the Building Committee. It is a sub-committee of the Health Committee and all plans and building specifications are submitted to it before being sanctioned by the Council. It sits one evening a month, sometimes two, for about two hours, and investigates the plans in detail. The Chairman is a Surveyor; there are two builders on the Committee and a property owner. The Surveyor, Inspector and myself are present in an advisory capacity. This Committee was instituted nearly two years ago, and has done some work of real value. The intentions of the persons desirous of erecting buildings have been sympathetically considered; but at the same time insistence on compliance with the requirements of public health has been stiffened up.

INSPECTION AND SUPERVISION OF FOOD.

(*a*) *Milk Supply.*

The wholesomeness of the milk produced within the area, the general adequacy of the arrangements for the supply and distribution of milk of pure and wholesome character, together with the administration of the Milk and Dairies (Consolidation) Act, 1915, the Milk and Dairies (Amendment) Act, 1922, and the Dairies, Cowsheds and Milkshops Orders.

Wholesomeness.—The meat inspection has rendered it unprofitable to keep doubtful cattle, and this will have the effect of weeding the herds for a directly economic reason. As detailed in former reports, many of the shippons have been remodelled, and lime-washing is regularly performed. There are about 80 different farms, large and small, in the district and there is an abundant supply of milk of a generally good quality.

(i) **Action taken as to Tuberculous Milk and Tuberculous Cattle.**—I am sometimes accompanied on my inspections of farms by the Veterinary Surgeon who has been appointed Meat Inspector, and have had the advantage of his advice, and several tuberculous cattle have been detected and slaughtered under the Tuberculosis Order of the Ministry of Agriculture. In each case the disease was found well established. Apart from this not a few have been reported by the farmers to the police. Samples of milk from a farm supplying a distant town were found to be tuberculous and an inspector was sent down. It was a farm at which we have been promised an improvement of the shippons, which was overdue. I was not informed of the findings of the inspector who visited the farm; but I myself found a recognisably tuberculous cow amongst an otherwise good stock. I told the farmer to report her, which he did; and the Veterinary Surgeon, who examined her carcas reported to me she was badly graped. The building of a fine new shippon at this farm is now nearly complete.

(ii) **Numbers of licences granted for the sale of milk under special registrations, classified as in the Fourth Schedule to the Milk (Special Designations) Order, 1923; types of apparatus licensed for the pasteurisation of milk.**—One Winsford farmer, Mr. Hopley, of Knights Grange Farm, has been licensed by the County Council for the sale of grade "A" milk. This dairy gained a certificate of merit in the Cheshire County Clean Milk Competition (January to April, 1925). It was on my suggestion, I think, that Mr. Hopley went in for this method of handling his milk, and I wrote him a letter in September 1925 stating the advantages of grade "A" milk. I had no objection to Mr. Hopley publishing my letter, provided he published the whole of it. But he left out an important passage, viz.:—

"I hope that many others in our neighbourhood will follow your example." That indeed is my hope. If it be realised, pasteurization will never be necessary. It is a second-best method, for it deteriorates the value of the food it temporarily and partially preserves. Were the great Pasteur himself alive he would have advocated grade "A" or certified milk, not pasteurization, in the present state of knowledge. It is only advisable faute de mieux.

(iii).—**Refusal or revocation of registration of retailers or of licences for graded milk, with reasons for the refusal or revocation.**—This is a County Council matter; but I have heard of none.

(iv).—**The summarized results of the bacteriological examination of samples of graded and other milk.**—Not being either the licensing authority under the Food and Drugs Act or for graded milk, we only take samples of milk for special reasons. Samples have only been taken twice, once from a lean old cow, suspect because of leanness—the milk was free from tubercle—and once in the following circumstances: the M.O.H. of Irlam wrote:—that one of our farmers had been sending milk there that shewed the following count:—

Bacteria growing on standard agar at 37 degrees C. in 48 hours—1,420,000 per 1 cc.
B. Coli. present in 1.0 cc.
0.1 cc. in each of 3 tubes.
0.01 cc. in each of 3 tubes.

Samples which we then took ourselves and sent to Dr. Grace, Pathologist to the Chester Infirmary, shewed very similar figures. The farmer had only newly taken over the farm, and the yard outside the shippon was exceptionally foul. He has now greatly improved the conditions in which his cattle are housed. The building itself is excellent. No further complaints have been received.

(*b*) *Meat.*

New meat regulations came into force in April, 1924. The Council is definitely required to enforce them.

Under clause (4) The M.O.H. and Inspector or other authorized Officer have power of entry.
,, ,, (5) ''A person'' that is to say any one at all who may be required to do so **''shall''** help those Officers in the execution of their duty.
,, ,, (8) Three hours' notice of slaughter is required if the slaughter is to take place at some odd hour. One written notice suffices for regular fixed hours. In cases of accident or illness or contact with infection the notice is to be given ''as soon as reasonably possibly'' before or after slaughter.
,, ,, (9) The butcher must ''forthwith'' notify disease discerned in a slaughtered animal. This clause seems to me of farreaching importance.
,, ,, (10) To give time for the inspection of beef and pork, the butcher may move no part of it, except the offal for 3 hours.
,, ,, (11) It is the duty of the Council not only to inform the butchers of the regulations but also to publish the effect of them in the press.
,, ,, (12) The preparation of food, household work and storeage of goods, other than required for slaughtering may not take place in a slaughter-house.
,, (15) to (18) The Ministry authorizes the **marking** of carcases that have been inspected by an approved Inspector.

,, ,, (19) and (20) Detailed regulations are made for the sanitation of stalls and shops used for selling meat, and

,, ,, (21) The transport of meat is dealt with, e.g., carrying meat and a live animal at the same time in a cart is forbidden.

In February 1925 I advised the Council that the appointment of the Sanitary Inspector to be responsible for this work "would here be equivalent to the very incomplete execution of the regulations, as the Inspector cannot possibly undertake unaided all the new duties whilst retaining his old. I advised the appointment of a Veterinary Surgeon as a part time assistant Inspector with the duty of supervising the slaughter house work and reporting to me." The Council thereupon appointed Mr. Herbert Bibby, M.R.C.V.S., of Over, Winsford, as their first Meat Inspector. His duties were to inspect all meat killed in the district, and by the courtesy of the butchers all meat brought dead into the district has been also submitted to the Inspector, and he also inspects chilled and frozen meat and meat exposed for sale. In all these matters he acts as my assistant and reports to me, and in my absence he works under the Sanitary Inspector's administrative supervision. He acts, in other words, in his specialist capacity as an assistant sanitary Inspector. The salary is £50 a year. Mr. Bibby was an enthusiast and made the inspection of meat a labour of love. His term of office was short, but long enough to launch our meat inspection scheme on sound lines, and to demonstrate its great public utility. He preserved his hopes for, and interest in, the work up to his untimely death.

MEAT REGULATIONS.

A meeting of the butchers serving the town, both wholesale and retail, convened by Mr. Clerk, and presided over by Mr. Chairman of the Health Committee (Councillor Barton, J.P.) was held in May 1925.

A general discussion of the regulations took place and a good deal of misconception was removed; but on only one point was a decision desired by the Health Department, and on that point a decision was reached, i.e., it was agreed on both sides that when the meat inspector condemned a piece of meat as unfit for food, the butcher who was the owner of meat should himself cause the said meat to be conveyed to the gas works for destruction, by being placed, under the direction of the gas Manager or his men, in the furnace.

This position was reached from a consideration of the following points:—

Meat submitted to inspection is the property of the butcher unless and until it is seized by the inspector.

If the inspector inform the butcher that the meat is unfit for human food, and suggest, and the butcher agree, that the meat shall be destroyed to the satisfaction of the inspector, no further legal action need follow.

The meat remains the butcher's property till he has had it destroyed. It is for him, therefore, and not for the inspector or the Health Authority to destroy it. All that the Health Authority does is to provide a place for its suitable destruction and to see that it is actually destroyed.

Some butchers were at first desirous of being saved the trouble of taking the meat to the Gas Works; but it was pointed out to them that first of all they would be saved the publicity of the Council's official visiting their premises to remove condemned meat, and secondly that if the meat inspector seizes meat, and legally takes the consequent action he exhibits the meat to a magistrate who condemns it and may fine or imprison the butcher without the option of a fine.

Under these circumstances the destruction by the butcher on an agreed system is to be preferred.

Though the principles embodied in the above statement hold good, the practice has now come to be that the meat inspector personally supervises the destruction of small quantities of unsound meat, e.g., fluked liver, lung with rufessence, etc., by the furnaces which the butchers themselves employ beneath their boilers. I have circularised them to have the furnace ready for the time of the meat inspector's visit if likely to be needed. Large pieces of whole carcases are taken to the Gas Works, cut up and burnt in the furnace. The transport costs the Council 2/6 and the cutting-up another 2/6.

Meat Marking.—After much controversy the Council has decided that if any butcher so request the inspector shall mark the carcases which he passes as sound with a stamp, viz:—

WINSFORD U.D.C.
(Meat Inspector's initial).
INSPECTED

The ink of the stamp should not be of the aniline dye type sometimes used on frozen meat, which penetrates several layers of the flesh.

So far there has been no call for meat marking; but the butchers' feeling seems to be that if done at all it should be done in every case. A conference was held with a representative of the Ministry who stated that marking meat according to, say, three grades or qualities which some of the butchers desired would not be sanctioned.

The meat inspector's first report was as follows:—

Meat Inspected in April :—

Beef	...	80 carcases.
Mutton	...	78 ,,
Pork	...	102 ,,
Veal	...	72 ,,

Estimated Weight of Meat destroyed :—

		Liver.	Kidney.	Lungs.
Beef	1500 lbs.	280 lbs.	—	96 lbs.
Mutton	150 ,,	4 ,,	—	35 ,,
Pork	25 ,,	56 ,,	14 ozs.	8 ,,
	1675 lbs.	340 lbs.	14 ozs.	140 lbs.

Diseases noted :—

Tubercle. Milliary Tuberculosis.
Septic Metritis.
Fluky Liver.
Neoplasm of Liver.
Cystic Kidney.
Nephritis.
Neoplasm of Throat.
Bruising due to Lambing.
Dysentry.
Bacilliary Necrosis from Rufessence.
Ccirrhosis of Liver.
Verminous Bronchitis.
(due to Filaria 9, Suppurative Pneumonia 1, Abscess of Lung or Empyæma 2).
Suppurative Pneumonia.
Still birth.
Navel lil.

1 Carcase of beef with Tuberculosis sent to Kennels for food.
1 Cow with septic metritis cremated at the gas works.
1 Cow with abscess of liver and emaciation cremated at gas works.
1 Cow with septicæmia sent to Mr. Hickson, of Ways Green, for dogs food.
½ Carcase of a beast (lungs, heart, and the fore-quarters) condemned and returned to the farmer, as food for his dogs.

also 20 Beasts' livers.
4 Pigs' ,,
2 Pigs' kidneys.
8 Beasts' heads.
3 Pigs' heads.
1 Pigs' heart.
12 Beasts' lungs.
12 Sheeps' lungs.
2 Pigs' lungs.
2 Beasts' Spleens.
6 Calves.

} Destroyed.

This report gives a notion of the very considerable range of disease discovered; and is a remarkable contrast to the reports now being received.

A great change for the better in the meat inspected is noteworthy. Much of the meat has always been good. Inspection has already succeeded in making it not worth while to invest in a cheap and doubtful animal. A butcher may still, however, pay a good price—say £25—for a beast, which when knocked down will prove to be graped. In such cases the butchers have now arranged to cover themselves against the very heavy loss by a system of insurances. This seems to me an admirable move, and I am told it works well.

I have arranged with the Laboratory of the Chester Royal Infirmary that meat samples examined there for the Council shall be charged 7/6 instead of the usual charge of 10/6. Information gained from microscopic sections is a wholesome corrective to naked eye inspection, e.g., in one case a pig's spleen, thought to be tuberculous, turned out to be affected with actinomycosis.

(ii) **Administration of the Public Health (Meat) Regulations 1924, as regards stalls, shops, stores and vehicles.**—There has not been much need to ask for changes in the butchers' shops, but we have insisted on the separate display of frozen and fresh meat. More than two-thirds of the meat of the town is fresh.

(iii). The Management of the public slaughter houses (if any).

There is none. The Meat Inspector's work would be easier if there were.

Number of private slaughter houses in use:

Registered.	In 1920.	In Jan. 1925.	In Dec. 1925.
John Bate, 7, High Street, Over ...	×	×	×
Joseph Fitton, 382, Station Rd., Wharton	×	×	×
Geo. Robinson, 107, High Street, Over...	×	×	×
Licensed.			
Winsford Co-operative Society, off Weaver Street, Over	×	×	×
Sidney Chorley. 192, High Street, Over...	×	×	×
Charles Kaye, 192, High Street, Over ...	No killing. Would require fresh premises, as existing permises are not suitable.		
Wm. Hickson (late Preston), 331, High Street, Over.	×	×	×
Exors. of Geo. Hamlett, rear of 353, High Street, Over	×	—	—
Aaron Phillips, 413, High Street, Over...	×	—	—
Phillip Gandy. 415, High Street, Over ...	×	×	×
Charles Massey, junr., Corner of John Street, Over	×	×	×
Frank Wigley, 505, High Street, New Slaughter House off John St., Over	These premises were in course of adaptation.	×	×
John Smart, 85, Delamere Street, Over	×	×	×
John Albert Johnson, Delamere Street, Over	×	–	—
Mrs. Johnson, Widow of the above, Delamere Street, Over	—	×	×
J. & J. Sproston, Grange Farm, Swanlow	×	×	×
Sam Taylor, The Poplars, Wharton ...	×	×	×
Thos. Horace Hickson. 332, Station Rd., Wharton	×	×	×

Speaking generally I should like to congratulate the butchers on the admirable spirit with which they have responded to the requirements of the regulations, and co-operated with us whose duty it is to enforce them.

(c) *Other Foods.*

Unsound Food and Food Inspection.—A large consignment of putrid chilled meat was destroyed at the Gas Works. The purveyor reported this spontaneously. The Meat Inspector has extended his inspection to meat products, such as ‘‘savoury ducks.’’ In these he has found the eggs of the liver fluke by microscopical examination.

Sanitary Condition of Bakehouses.—This is satisfactory. The Inspector paid 118 visits.

Other Places where Foods are Manufactured, Prepared, Stored, or Exposed for Sale.—The Inspector paid 76 visits to the tripe dresser, the fried fish shops, chip potato shops, etc. We have also secured improvements in the cooking premises of a café.

Important respects in which existing powers have been found inadequate for dealing with sanitary conditions in places where food is prepared and sold.—Thus far the present legal powers suffice, except probably that our right to inspect, including right of entry, should be more clearly defined.

(d) **Any cases of food poisoning in the area.**

(*See* **the Ministry of Health's Memo: 39/Foods & Circulars C. L. I. & II. of the 10th Aug., 1921, & 1st April, 1924.)**
Nil.

(e) Sale of Food and Drugs Acts, and

(f) Milk and Cream Regulations, 1912 and 1917.

Paragraph 12 of Memo. 36/Foods

In regard to both these matters the County Council is the authority; but I should like in connection with them to refer to one subject.

A difficult abuse to combat is the advertisement of patent foods for infants. No such food is necessary; none is advised by our health visitor. All are costly, relatively to the good fresh milk to be had in the town, and whilst all lack the essential freshness (both vitamines and 'good' protein) of natural food, many, indeed most, contain a very large and deleterious excess of starch. They are advertised without shame and puffed without conscience. It is difficult to understand why infant-food vendors should be allowed to misrepresent their goods, the very expense of which seems to be a recommendation in the eyes of parents anxious to give their children "the best." But the artificial food heresy has bought its way into the very columns of the Medical Journals, not to speak of the lay press and the omnibuses and the public hoardings.

PREVALENCE OF, AND CONTROL OVER, INFECTIOUS DISEASES.

INFECTIOUS DISEASES GENERALLY.

Prevalence of notifiable infectious diseases during the period since 1920:

	1921.	1922.	1923.	1924.	1925.
Small-pox	Nil	Nil	Nil	Nil	Nil
Scarlet-Fever	28	50	66	57	48
Diphtheria	23	9	25	8	10
Enteric Fever (Typhoid) ... Paratyhhoid	1	1	2	Nil	Nil
Puerperal Fever	Nil	3	1	Nil	3
Pneumonia	18	50	19	14	14

	1921.	1922.	1923.	1924.	1925.
Erysipelas	Nil	3	3	1	3
Poliomyelitis	Nil	Nil	Nil	Nil	Nil
Cerebro-spinal Fever	Nil	Nil	Nil	Nil	Nil
Encephalitis Lethargica	Nil	Nil	Nil	3	Nil
Malaria	Nil	Nil	Nil	Nil	Nil
Dysentery	Nil	Nil	Nil	Nil	Nil
Measles	2	46	434	412	121
Tuberculosis :					
(a) Pumonary	9	8	9	10	8
(b) Non-pulmonary ...	9	6	7	16	12
Ophthalmia Neo-natorum ...	2	3	2	Nil	Nil

Noteworthy facts as to the source or spread of infection.—In my 1923 Report (p. 32) described a scarlet fever carrier whose otorrhoea, persisting 4 months after he had left the hospital, appeared to have infected six other children.

In October, 1920, I found a large percentage of the scholars of Whitegate School recovering from a mild attack of scarlet fever, whilst a few were in the incipient stages. The Education Authority was communicated with and its attention was directed to the failure of ararngements for notification.

Again in October, 1924, I found 52 children in Dierden Street School peeling after mild unrecognised scarlet fever.

In 1923 66 cases of scarlet fever were notified. In 27 instances there was 1 person per room in the house. In 29 there were 2; and in 10, 3, i.e., 'overcrowed' in the technical sense. A cottage with a living-room, scullery and two bedrooms, which is occupied by 8 persons, whatever the size of the rooms, is not counted as overcrowded if there be a cooking stove in the scullery. Though in the second group of scarlet fever cases there was no overcrowding in the strict sense, there is a presumption that close quarters favoured the disease.

In 1925 one case of scarlet fever was infected without contact with the patient, but by (? the clothes of) a third party ('fomites').

In 1924, and again later, cases in which symptons of scarlet fever and of measles were mingled have occurred. One is described on p. 25 of my 1924 Report.

Supply and prompt use of diphtheria anti-toxin.—Anti-toxin is supplied by the Inspector, Mr. Hickson, at his office or house on the demand of a practitioner. It is desirable, however, that each practitioner should always have in hand two or three phials, so as to avoid the delay in coming to fetch it, when it is wanted, as it always is, in a hurry.

We supply Lister Institute Serum thus:—

For treatment—phials containing 8,000 units, concentrated in less than 10 cc.

For prevention—phials containing 500 units.

The occurrence of Encephalitis Lethargica.—In the 5 years three cases have been notified, all in 1924. Two were in February and one in September. Two died and one recovered.

Return cases of Scarlet Fever and other Statistics.—

Scarlet Fever Statistics.

Year (Cal'ndar)	Population at quinquenial periods (a)	Total No. of Scarlet Fever cases notified	Attack rate per 1,000	Cases sent to Hospital			Cases treated at Home		
				No. of cases admitted	No. of deaths	No. of "return Cases" (b)	No. of cases treated at Home	No. of deaths	No. of "return cases" (c)
1910	10,382	55	5·3	24	Nil	2	31	Nil	2
1911	10,772	14	1·3	12	do.	Nil	2	do.	Nil
1912	do.	9	·8	8	1	do.	1	do.	do.
1913	do.	16	1·5	12	Nil	do.	4	do.	do.
1914	do.	21	2·0	12	do.	do	9	do.	do.
1915	do.	13	1·2	12	do.	do.	1	do.	do.
1916	10,957	2	·1	Nil	do.	do.	2	do.	do.
1917	do.	2	·1	1	do.	do.	1	do.	do.
1918	do.	Nil		Nil	do.	do.	Nil	do.	do.
1919	do.	10	·91	8	do.	1	2	do.	do.
1920	do.	17	1·5	14	do.	1	3	do.	do.
1921	10,927	28	2·5	24	do.	2	4	do.	do.
1922	do.	50	4·5	47	1	1	3	do.	do.
1923	do.	66	6·1	61	Nil	1	5	do.	do.
1924	do.	57		48	1	Nil	9	do.	do.
1925	do.	48		47	1	1	1	do.	do.

NOTE.—(b) and (c). The usual period allowed when speaking of a "return case" is 28 days after the return home of the scarlet fever case from hospital, or 28 days after the release of the scarlet fever case from isolation at home.

Diseases notifiable under the Regulations of the 7th January, 1919, i.e., Pneumonia, Malaria, Dysentry and Trench Fever.—

PNEUMONIA: Since notification began the figures have been:—

	1919	1920	1921	1922	1923	1924	1925
Cases ...	45 ...	16 ...	18 ...	50 ...	19 ...	14 ...	14
Deaths ...	3*...	5 ...	10 ...	18 ...	8 ...	4 ...	3

*(also 40 from Influenza)

Re nursing of pneumonia *see p. 24 (b).*

Oxygen and a Haldane administration apparatus are available gratis for cases of pneumonia and broncho-pneumonia.

Malaria, dysentry and trench fever have not been notified.

Examination of Pathological and Bacteriological Specimens.—The Lister Institute examines throat swabs and the Elliot Memorial Laboratory, Royal Infirmary, Chester, the Laboratory of Public Health, York Place, Manchester; the County Analyst; and the Clinical Laboratory of St. Bartholomew's Hospital, London, have all been employed by the Council.

The Council has resolved to provide the cost of the laboratory examination of any clinical specimens required by practitioners and these facilities are in occasional use.

Action to discover Contacts, Shick and Dick Tests.—I have visited schools repeatedly and taken swabs of diphtheria contacts but I have not used the Shick test. Also practitioners have swabbed the contacts of their private cases.

I have above mentioned inspections made of schools to discover scarlet fever contacts (pp. 25 and 66). Such inspections have been frequent.

We have been accustomed to advise the use of eucalyphtus oil to be applied to the skin of contacts (and patients) and we provide the oil free. We also advise swabbing the throats with permanganate of potash (5 drops of solution of potassuim permanganate in an eggcup-ful of water), twice a day. Our experience of these methods is inconclusive.

Dr. Okell reports to me that at the Isolation Hospital striking results have been obtained by Parke, Davis & Co's. product for the treatment of scarlet fever. It appears to abort the cases. The product is apparently of the same character as Dick's or perhaps identical with it. If further experience confirms these hopes, it may suffice to treat scarlet fever patients at home with it and save the great expense of the Isolation Hospital method. But that is for the future to decide.

The Dick *test* has been used in the Isolation Hospital but not in the district.

ERYSIPILAS: We had a death from erysipelas in March, 1925. I advised the Council that "the cost of providing horse serum or streptococcus pyogenes anti-serum, univalent *; and streptococcus pyogenes vaccine * for the rarely occurring cases of erysipelas met with now-a-days would be very small—a few shillings in an average year, but it might help to obviate an occasional fatality."

The Council *resolved* to make this provision.

Number of (a) primary vaccinations and (b) revaccinations performed by the M.O.H under the Public Health (Small-pox Prevention) Regulations, 1917:—Nil.

Non-notifiable acute infectious diseases.—Measles in Winsford *is* notifiable, so its statistics are included in the general table above. One bad year was 1923 (434 cases of whom 304 were under 5 years of age; and 7 deaths). In the Report for that year (p. 28) I dealt with the epidemic—"of a mild but lingering type. The rash takes several days to come out shewing a tendency to remain under the skin so to speak. The convalesence is protracted. The remarkable infrequency of serious complications is in part attributable to the fact that almost every case is under a doctor—and for that the systematic inspection by the Health Visitor must be thanked."

INFLUENZA:	1921	1922	1923	1924	1925
Deaths	1	12	4	3	1
Pneumonia (all forms)...	11	12	4	9	3

Mumps tends to be associated with measles. (It has caused a school closure in 1925).

The apparently epidemic nephritis associated with influenza in 1925-6 has been described above (p.).

WHOOPING-COUGH:	1921	1922	1923	1924	1925
Deaths... ...	2	Nil.	Nil.	4	Nil.

A teaspoon-ful of garlic juice a day swallowed by each child exposed to infection would greatly mitigate the severity of a whooping-cough epidemic. The cost would be 3¾d. per day for every 8 children. The juice (succus allii) is a natural product squeezed from the garlic 'cloves' (bulbs); and though of a powerful onion smell, is readily taken by 80 or 90 per cent. of children and positively liked by not a few. My experience is that, if taken early in the disease, it turns an 8 weeks severe illness into a 5 weeks mild one. The experience of a preparatory school of 150 boys, where I suggested its use is, the Head Master tells me, that it has robbed a whooping-cough epidemic of all its worst terrors.

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* *I note that authorities (viz.: Dr. Matthews of the Innoculation Dept., St. Mary's Hospital and Sir Thomas Horder) advise: "Begin by giviug 50 c.c. of univalent pyogenes serum intra-venously and follow this at once by very small doses of vaccine, preferably autogenous, such as 2 to 5 million cocci, on alternate days, for 4 to 6 doses. The serum may be repeated on two to four occasions at intervals of 24 hours, concurrently with the vaccine." (Price's test book p 46) "This probably constitutes the best method of exploiting specific measures of treatment." (ib. p. 57).*

Cancer:	1921	1922	1923	1924	1925
Deaths... ...	9	12	8	14	18

The figures are not dissimilar to the cancer deaths elsewhere. They certainly do not support the claim made by some irresponsible people that salt in some vague way is a 'cause of cancer.'*

A line of cancer research of considerable interest is being pursued at present by Professor Blair Bell, in Liverpool, a line more concerned with treatment than with the microscope, and it is to be hoped that in a few years his work will be fruitful. Meanwhile early seeking medical advice and early operation so soon as the diagnosis is made is the thing to advocate. No sort of 'ray' yet replaces the knife in dealing with cancer.

Locally contracted Anthrax.—Nil.

Rabies.—Nil. (thanks to Pasteur and Lord Long).

Facilities available for cleansing and disinfection of verminous persons and their belongings and for the disinfection of premises and articles.—Bedding is disinfected by the steam disinfector at Davenham Hospital.

Houses are disinfected by cyllin spraying. The schools are disinfected thus:—in the holidays twice a year and after closure for an epidemic.

I have referred above (p. 21) to the very real need of a minor treatment centre for the disinfestation of school-children's heads, treatment of contagious pustular eczema (impetigo) etc., and to the suggestion that this should be carried on by a rota of the general practitioners of the town and a trained nurse under their supervision. The matter is one for the Education Authority.

**I have received a newspaper correspondence on this thesis.*

Notifiable Diseases during the year 1925.

Age, Incidence and Distribution of cases of Infectious Disease.

	Total cases notified.	Under—											Over 65	Cases admitted to Hospital	Over	Whar-ton	Totat deaths
		1	2	3	4	5	10	15	20	35	45	65					
Small-pox	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	...	...	...	...	...	...	...	...
Scarlet Fever	48	1	1	1* 6	3	2	19	9	4	3	...	...	...	47	20	28	1
Diphtheria	10	...	1* 1	...	...	...	1	4	2	2	...	...	...	...	...	...	1
Enteric Fever	Nil	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil
Paratyphoid	Nil	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil
Puerperal Fever ...	3	...	...	...	...	...	...	...	...	1* 2	1* 1	...	...	...	...	...	2
Pneumonia	14	1* 2	...	1	...	...	3	1* 2	...	3	2	...	1* 1	...	...	...	3
Erysipelas	3	...	...	...	...	...	...	...	...	1	1* 1	...	1	...	...	...	1
Poliomyelitis	Nil	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil
Cerebro-Spinal Fever ...	Nil	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil
Malaria	Nil	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil
Encephalitis Lethargica...	Nil	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil
Dysentery	Nil	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil
Measles	121	2	3	2	3	11	65	25	2	6	2	...	...	...	...	...	Nil
Tuberculosis, new cases—																	
(*a*) Pulmonary { M. 7 F. 1	8	...	...	...	...	...	...	...	1	3	1	3	...	...	...	...	...
(*b*) Non-Polmonary { M. 10 F. 2	12	...	1	...	1*M 1	...	1*M 7	3	...	...	...	...	...	...	...	...	2
Ophthalmia Neonatorum	Nil	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil

The deaths are indicated by an asterisk *; and, in the case of tuberculosis deaths, the sex is indicated by the letters "M" or "F"

NOTE.—Two persons died of phthisis outside the area, who belonged to the area.

MONTHLY INCIDENCE OF DISEASES.

	Diphthieria.	Scarlet Fever.	Pneumonia.	Erysipelas.	Eucephalitis Lathargica.	Enteric.	Phthisis.	Other Tuberculous Diseases.	Puerperal Fever.	Ophthalmia.	Measles.	Poliomyelitis.	Cerebro-Spinal Fever.	Malaria.	Dysentery.
January ...	1	3	...	...	...	...	...	1	...	...	27	...	...	...	...
February ...	3	10	2	1	...	...	...	...	...	...	33	...	...	...	...
March ...	...	5	5	2	...	...	...	...	1	...	40	...	...	...	...
April ...	...	1	1	...	...	...	2	3	2	...	17	...	...	...	...
May ...	1	...	1	...	...	...	4	1	...	...	4	...	...	...	...
June	1	4	...	...	...	...	1	1	...	...	...	...	...	...	...
July ...	..	6	...	...	...	...	1	2	...	...	...	...	...	...	...
August ...	...	2	...	...	...	...	...	1	...	...	...	...	...	...	...
September ...	3	6	2	...	...	...	...	3	...	...	...	...	...	...	...
October ...	1	8	..	...	...	...	...	...	...	...	...	...	...	...	...
November ...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
December ..	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...

TUBERCULOSIS.

New Cases and Mortality during 1925.

This information is included in the table on p.

Public Health (Prevention of Tuberculosis) Regulations, 1925.

Action taken under these Regulations relating to tuberculous employees in the milk trade.—No case has arisen.

(a) **Article 3 directing us to make enquiries.**—None of the persons notified as suffering from tuberculosis is engaged in the milk trade; therefore—

(b) **Article 5 directing the local authority to restrain a consumptive from such employment** has not been applicable; nor have —

(c) **Article 6 on appeals,** nor—

(d) **Article 7 on compensation.**

Public Health Act, 1925, Section 62.

This section enables Urban authorities or County Councils or Rural District Councils to apply to a court of summary jurisdiction for an order for the removal to a hospital or institution of any person who is suffering from pulmonary tuberculosis and is in an infectious state, and for his detention and maintenance therein for such period, not exceeding 3 months, as the court may think fit.

Any action taken under this section.—Nil. The case is rather the other way round, for we have had occasion to complain of a patient with advanced consumption being discharged from a sanatorium, which she was unwilling to leave, and sent back to relatives on whom she had but slight claims, who had a young child and limited accommodation, and who were unwilling to receive her. The matter was settled by her death.

I think a patient with advanced phthisis should not be discharged home from a sanatorium without prior consultation with the local health authority.

Tuberculosis Schemes.

The County Council is the authority which deals with these. Re its Dispensary in Winsford, see p. above.

During 1925 the Laboratory attached to the Cheshire County Council Public Health Department Office, at Chester, examined specimens of sputa sent from Winsford with the following results:—specimens, 66; positive, 5; negative, 61.

Venereal Diseases.

With these too the County Council deals. Re the centre for V.D. treatment formerly held at the Albert Infirmary, see p. 22. above.

MATERNITY AND CHILD WELFARE.

(1) **Inspection of Mid-wives.**—The Council is no longer the authority for this, a fact which renders the sides of our work which touch this sphere—such as the prevention of the spread of puerperal fever (see p. below) difficult.

It seems reasonable that an authority responsible, as this authority is, for maternity and child welfare, should also be responsible for the inspection of mid-wives.

However, the County Council is the local supervising authority under the Midwives' Acts. The 'term' local seems a misnomer, for so distant an authority can know little of many intimate circumstances, familiarity with which constitutes the basis of an effective supervision. Still less can it know, or rapidly find out, of the circumstances in which maternal deaths or puerperal fever or ophthalmia neonatorum occur. Surely the local staff should, at worst, be the agents of the authority in this matter.

(2) **Arrangements made for attending to the health of expectant and nursing mothers and children under 5 years of age.**

Health Visitor.—Reports of 250 live births and 12 still births were received in the year, 255 notified by midwives and 7 by doctors. Of course doctors were often present at births notified by midwives, so these figures do not shew who bore the responsibility of the cases. Also in our books are the names of children under 5 as follows:—

Under 9 months	170
Between 9 months and 2 years ...	249
Between 2 and 5 years	542
Total	961

The Health Visitor visited these children as follows:—

297	first visits.	
1,056	revisits to children under 9 months.	
589	,, ,, ,,	from 9 months to 2 years.
460	,, ,, ,,	from 2 years to 5 years.

She visited measles cases from 1st January to 26th.

Our Health Visitor, Mrs. Joynson, was formerly a midwife in the district. She is well known and is well received. She attends the child welfare centre, and encourages the mothers to bring their children to it.

Midwives.—see p. 24 above.

Nurses.—see p. 23 above.

Consultation Centre.—(We have no **treatment centre.**)

A child welfare centre in rooms in the Free Library building, for consultation only, is carried on by the Council. For treatment the patients are systematically referred to their private doctors. Each doctor in the town receives a weekly statement regarding such of his patients as attend the centre whether for the first time or any other. The Medical Officer of the centre is Dr. R. H. Deans, M.B., D.P.H., a general practitioner in the town. He has held the post since the inception of the scheme. He reports as follows:—

Child Welfare Centre,
Winsford,
28th February, 1926.

To the Medical Officer of Health,
Winsford Urban District.

Sir,

I beg to present the Report of the work of the Child Welfare Centre for the year 1925.

The Centre was as usual held each Friday afternoon from 2-30 p.m. (with the exception of Good Friday and Christmas Day). Tea, milk, bread and butter were provided for all who attended.

Each child was stripped, weighed and measured by the nurses at each visit, and then clinically examined by myself. Any abnormality, hygienic or dietetic advice given was recorded on the child's record card. Each practitioner received each week a list of his patients who had attended with a note of any abnormality or diseased condition found.

The Health Visitor attended each session, and followed up all necessary cases during her health visiting work.

The District Nurses continued to attend each week and assisted in the work of the Centre. This help is of course most valuable.

Lady Members of the Child Welfare Committee (voluntary workers) also attended each session, serving and preparing tea, etc., and generally giving valuable and indispensable help. This help is greatly appreciated.

A small library is still available for borrowing by anyone attending the Centre.

The thanks of the Council are again due to Mr. and Mrs. Barton for providing the tea, bread and butter and milk, and to Mrs. Pretty for her generosity in providing a Christmas tea and tree for all who regularly attended the Centre.

A notable increase in the attendances has to drawn attention to. There were 106 new cases during the year, and of these 97 were under 1 year of age at their first attendance. This I consider a remarkable improvement and due I believe to the higher standard of midwifery practice in the town—most of the midwifery being now in the hands of the trained nurses of the Nursing Association. The larger attendance has resulted in much overcrowding, and the present premises are now inadequate in size for dealing properly with such numbers. The Council I believe have this matter now in hand.

More chairs (nursing) are also required and these we hope to have at any early date.*

The following is a statistical record of the work, etc.:—

Total attendance	870
No. of times Centre was open	50
Average attendance	17.4
Total No. of children on the register during the year	215
No. of new cases under 1 year of age	97
,, ,, over ,, ,, ...	9
No. of cases attending from outside the Urban District	4
No. of new cases under 1 year of age being entirely breast-fed	71
No. of new cases under 1 year of age being entirely bottle-fed	20
No. of new cases under 1 year of age being partly breast and partly bottle-fed	6

*now provided.

The diseased or abnormal conditions found and their frequency were:—

Bronchitis	29
Phimosis	13
Eczema and other skin diseases	10
Diarrhœa, etc.	7
Rickets	6
Dental caries	5
Tonsils and (or) adenoids	5
Conjunctivitis, etc.	4
Adenitis (enlarged glands)	3
Talipes (club foot)	2
Hernia (unbilical)	2

And nystagmus, jaundice, cardiac valvular disease, stometitis, and kyphosis, 1 case of each

I have much pleasure in recording my personal thanks to all who have assisted me in the work of the Centre during the year.

I am, Sir,
Yours faithfully,
R. H. DEANS.

The question whether to extend the accommodation by building in the yard in rear of the premises, or whether to make provision for this work in whatever building may be finally built or acquired as the U.D.C. Offices, a matter now in debate, is not yet settled.

Maternity Hospital.—As stated above, p. 20, occasional difficult cases (e.g,. caesarian section) are taken in the Albert Infirmary.

Maternity Mortality:—

	1921	1922	1923	1924	1925
Deaths from Puerperal Sepsis (fever)	nil. ...	1 ...	1 ...	nil. ...	2
Other accidents and Diseases Pregnancy and Parturition	2 ...	nil. ...	nil. ...	2 ...	2

The particulars of the four 1924 deaths are given below and with them those of a puerperal fever case which recovered.

i. The wife of an alkali labourer, aged 41, was confined and within a few hours developed acute intestinal obstruction. She died on 29th March. The death was not at the time attributed to puerperal sepsis.

ii. The wife of a cargo trimmer, aged 35, was confined on 26th March and died on 2nd April, of puerperal fever. The Nurse was summoned to the confinement, but labour was precipitate and birth occurred before her arrival, the patient being alone. An hour later the Doctor saw her.

iii. A married woman, aged 33, was confined on 28th March and notified on 2nd April as having puerperal fever. She recovered.

iv. The wife of a carter, aged 30, was confined on 12th April at 6 a.m., the Nurse being present. The Nurse examined P.V. before birth. As the woman was torn, the Nurse sent for the Doctor who had been engaged for the case. The Doctor arrived at 9-0 a.m. and, finding a 2nd degree tear of the perineum, inserted two stitches. Symptoms were already grave the next evening. She died on 16th April.

In each of the above cases a different doctor was in attendance. Two nurses who worked together were concerned with all four. I understand that one of these nurses attended No 1 and No. 2, and that the other nurse attended Nos. 2, 3 and 4. There was some further interchange of duties in the after treatment. Lysol was the antiseptic relied upon. There appears to be a chain of causation running through these four cases, and if so the antiseptic *in the strength used* proved a broken reed. These nurses are generally competent and very clean; but the attention of the authority responsible for the nurses of the County might, in my view, be directed to seeing that if they are going to rely on lotions for sterility, the lotions shall be of a *measured* strength. A few drops, literally drops (minims!) of lysol trickled out of a bottle into a washing bowl holding a gallon or more of water is not only of no practical value; but has a detrimental effect in so far as it gives to the nurse a false sense of security. This is especially the case when the qualities of lysol are variable, samples, I understand being on the market with percentages of cresols varying between 3 and 52 per cent. The hand sterilizing routine is the alpha and omega of safety-first midwifery.

The machinery for notification and supersivion of these cases is quite unsatisfactory since the old local arrangements have been given up. In case No. 2 I understand that the nurse continued in attendance on other patients for several days prior to the county authorities putting her into quarantine.

The wife of a farm labourer, aged 24, died in the Albert Infirmary on 28th October of albuminuria of pregnancy, and eclampsia.

Had we had a proper or workable ante-natal scheme in operation, it is probable that this death would not have occurred.

Nor would the following:—

A young woman who had a still-born child on December 11th was removed on December 15th to the Chester Mental Hospital on account of eclampsia. She died at the Asylum on 24th. The first eclamptic fits occurred prior to the birth.

Development of ante natal work.—In the preceding paragraph I point to cases which in all probability a proper system of examination during pregnancy would have saved. We have a system; but it does not work because the mothers will not come to a centre to submit to examination. It is too public, in a small place like Winsford, however little such a consideration may apply in the great towns. The women will bring their children to the centre, but will not submit to examination there themselves. They 'prefer their own doctor.' Unfortunately they can seldom afford to pay for what must seem to them a non-essential. I therefore submitted the following proposition first to the Council and then with the Council's approval to the Ministry:—

20th May, 1926.

Sir,

In my Report for 1924, I outlined a Maternity Scheme for this Council as follows, and the Council after consideration and debate has now decided, subject to the Minister's approval, to put it into operation.

I am to ask for the approval of the Minister.

EXTRACT from Report:—"The Child Welfare Centre is equipped for ante-natal work, but in practice gets none. What is done, is done privately. I have given the Council the advice that ante-natal work is of real value, and could be satisfactorily accomplished at small cost, by the Council paying the private doctors at a fixed rate per case. Thus:—there are about 200 births annually. If half the patients submitted themselves to ante-natal examination by their private doctors and the Council paid 7/6d. per case (covering one examination before the 5th month and one between the 5th month and term) the cost would be about £40. Of this the Council, if the scheme were approved, would recover £20 from the Ministry of Health. The practitioners would supply the Council with a sufficient record of their examinations without the patients' names; but their records, kept privately by them would be open only to my inspection or that of a medical inspector of the Ministry. The examination required would include pelvimetry and the examination of the urine. I have consulted the practitioners and ascertained that they would undertake the work in the above terms."

I annex the Form of the proposed report. A slip bearing the number of the patient and the details of the case would be sent monthly to my office by the practitioners in respect of each case examined and a duplicate of the same would be kept in his record book. The sheets of the record book would differ from the slips, however, in as much as they would carry the records of examinations on two dates, and would have, of course, the patients' names and addresses upon them.

Should the patient not make application until after the 5th month, of course the scheme, as stated, would not be strictly applicable; and it would be understood that, subject to the full report of the pelvimetry and urinalysis and any other matters falling to be reported, the fee would be paid irrespective of the number of the woman's attendances, i.e., whether she attended before the 5th month as well as later, or only after the 5th month."

I am, Sir,

Your obedient Servant,

LIONEL JAS. PICTON,
M.O.H.

To the Secretary,
The Ministry of Health.

WINSFORD URBAN DISTRICT MATERNITY SCHEME.

No.	Name.	Address.	Date.	Number of Labour.	Pelvimetry.				Any abnormility in previous confinements.	Any abnormility noted at examination	Urine.			
					Intercristal. [Normal about 11"].	Interspinous [Normal about 10"].	External Conjugate. [Normal about 8"].	Diagonal Conjugate. [Normal about 4½"].			Sp. Gr.	Re-action.	Al-bumen.	Sugar, etc.

The Ministry has declined to approve the scheme on the ground that it contravenes the proviso to Section I of the Maternity & Child Welfare Act of 1918, * which proviso reads :—"Provided that nothing in this Act shall authorize the establishment by any local authority of a general domiciliary service by medical practitioners." As the scheme makes no such proposals, it is evident that the terms in which the scheme is stated have not conveyed my intention. I trust the decision may be reconsidered.

Unmarried mothers, illegitimate children, children permanently or temporarily deprived of a home with their own parents.—Need for our intervention has not arisen under these heads.

Note on the Feeding of Infants under 9 months old:

A monthly report has been made to the Council as follows :—

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* *8 & 9 Geo. V., c. 29.*

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November	December
Number of Infants under 9 months of age in Winsford	173	147	157	162	164	167	179	...	...	188	180	170
Number of these inspected by Health Visitor in the month	39*	103	105	128	120	123	89	121	...	129	125	127
Of those inspected the number *breast-fed* ...	34*	97	95	111	111	109	82	105	...	112	111	114
(*a*) wholly... ...	34*	97	93	109	111	105	...	105	..	...	105	...
(*b*) breast-fed but supplemented with fresh cow's milk	..	...	2	2	...	4	...	...	...	...	...	...
(*c*) Supplemented with other food ...	...	...	...	...	...	...	...	...	...	...	...	...
The number artificially fed	5*	7	10	14	9	14	7	16	...	17	14	...
(*a*) with fresh cow's milk	4*	5	10	12	7	10	7	14	...	15	12	10
(*b*) with dried milk diluted with water	...	...	...	...	1	2	...	1	...	...	...	...
(*c*) with condensed milk	1*	2	...	2	1	1	...	1	...	...	...	1
(*d*) with a proprietary starchy "food"										2	2	2
(*e*) with a proprietary malted "food"												
(*f*) with a proprietary predigested "food"	...	...	..	...	...	1	...	...	...	...	...	...
(*g*) dried milk and fresh milk ...												
(*h*) on a capricious diet												

* The Health Visitor was otherwise engaged (inspecting measles) to Jan. 25th.

Arrangements for the supply of food and milk.—In one case a poor mother needed milk, and, on our mentioning it, the provision was made privately by a Councillor intrested in maternity and child welfare. In another case where a pregnant woman had phthisis, we mentioned the matter to the County M.O.H. who is now the administrative Tuberculosis Officer, and milk was provided under the tuberculosis scheme.

Orthopædic treatment for children under 5 years of age.—There is no organised centre. There is an orthopædic centre at Northwich (primarily for men injured in the war), and one child from Winsford has attended there.

As we have an excellent Masseuse attending the Albert Infirmary 3 days a week, and, at any rate, some provision of electrical and gymnastic apparatus, and also good out-patient rooms, there is already the nucleus of an excellent centre locally should any demand arise.

The work of voluntary societies in connection with maternity and child welfare.—A number of ladies are co-opted on the Child Welfare Committee: for details of their work see Dr. Dean's Report p. 45.

Co-ordination of work with School Medical Service.—Some system of handing on the centre records, when the children reach the age of 5, to the Education Authorities should be devised.

(3) **Puerperal Fever:** see pp. 76-7 above.

Ophthalmia Neonotorum:

Year.	Cases.			Vision unimpaired	Vision impaired	Total Blindness	Deaths
	Notified	Treated at home	Treated in hosp'l				
1921	2	2	nil	2	...	...	...
1922	3	3	nil	3	...	...	...
1923	2	2	nil	2	...	...	...
1924	nil	...	..	...	...	...	...
1925	nil	...	...		...	...	...

Measles.—This disease is notifiable in Winsford (see p. 69). above).

Whooping-Cough.—See p. 69 above.

Epidemic Diarrhœa.—The Health Visitor reports week by week all the cases of diarrhœa amongst infants she inspects and all she learns of; but they are few and generally trivial.

Poliomyelitis.—Nil; i.e., none has been notified in the 5 years, though 2 have been in 1926.

Other infectious diseases of parturient women, infants and young children, and the methods adopted to diminish the mort-

ality and permanent injury to health caused by these diseases, and the results achieved by these methods.—Nil.

HOME OFFICE FORM 572.

This table is enclosed, by request of the Secretary of State, for the guidance and convenience of Medical Officers of Health in preparing that part of their Annual Report which relates to factories, workshops, workplaces and home work. It is not intended to supersede the fuller statement which is desirable in the text of the Report, but to provide for uniformity in the presentation of such particulars as lend themselves to statistical treatment.

Annual Report of the Medical Officer of Health for the year 1925, for the Urban District of Winsford, on the administration of the Factory and Workshop Act, 1901, in connection with Factories, Workshops, Workplaces and Homework.

1.—Inspection.

Including Inspections made by Sanitary Inspector.

Premises.	Inspections.	Number of Written Notices.	Inspections.
Factories ... ... (Including Factory Laundries).	50	...	...
Workshops .. .. (Including Workshop Laundries).	100	...	...
Workplaces .. .. (Other than Outworkers' premises included in Part 3 of this Report).	12	...	...
Total	162	:	...

2.—Defects Found.

Particulars.	Number of Defects			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
*Nuisances under the Public Health Acts:—**				
Want of Cleanliness ...	2	2	...	..
Other Nuisances	12	10		...
Total ...	14	12	...	..

*Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

3.—Home Work.

	Lists received from Employers.		
	Lists.	Contractors.	Workmen.
Wearing Apparel— Making, &c.	2	2	4

4.—REGISTERED WORKSHOPS.

Total number of Workshops on Register — 100.

LIONEL JAS. PICTON,
Medical Officer of Health.

The number of Males and Females employed by—

	Males.	Females.
The Salt Union Ltd. (Winsford Urban Area only)	1320	190
John Garner's Works	100	9
Messrs. Hamletts' Works	108	54
FUSTIAN CUTTING FACTORIES.		
J. W. Ashley & Son, Dierden Street Factory ...	2	32
	(Average).	
Rilshaw Factory (at present closed down) ...		
United Velvet Cutters Association, John Street ...		
,, ,, ,, ,, Well Street ...		
,, ,, ,, ,, High Street ...		
(Not worked for a number of years).		

Cannot get the information at present for the above, the Mills are closed down.

	Males.	Females.
CLOTHING FACTORIES.		
J. Pimlott & Son, Rilshaw Factory	7	65
J. Crook & Son, Ltd., Siddorn Street	2	74

Numbers of Factories and Workshops.

FACTORIES.	
Salt	16
Cabinet Maker, using power	1
Clothing	2
Boat Builder	1
Brick Maker, machine	1
Corn Mill, gas engines	2
,, ,, water mill	1
Fustian Cutting	5
Engine and Boiler Makers ...	1
Iron Foundry	1
Laundry, steam	1
Mineral Water	1
Motor Car Engine Makers	2
Silica	1
Printing	2
Saw Mills (Builders)	3
	41
WORKSHOPS.	
Boot and Clog Makers...	10
Cloggers	8

Bottling Stores	2
Bread Bakers	16
Brick Makers, hand	2
Builders	10
Cabinet Maker, not using power	1
Confectioners	5
Cycle Repairers	6
Dressmakers	9
Milliners	6
Saddlers	2
Herb Beer Maker	1
Ice Cream Makers	2
Laundries, hand	1
Rope Walk	1
Stone Masons	2
Wheelwright	1
Tripe Dresser	1
Tinsmith	1
Tarpaulin	8
Smiths	4
Sausage Makers	8
	100

In concluding this Report I wish to thank first of all Mr. Hickson, our Sanitary Inspector, for his unfailing loyalty, and the thoroughness and patience with which he makes and records his inspections.

I also have to thank Mr. Scholefield, the Surveyor, for his courteous assistance; and Mr. Birtwistle, the Engineer in charge of the Oakmere Water Scheme, for information on that. I owe much to the members of the Council for their sympathetic consideration of my reports, and to the members of the building Committee for their patient hearing of the public health side of many practical questions.

The Royal Commission, appointed in 1869, on which sat Sir Thomas Watson, Sir James Paget (father of the present Bishop of Chester) and Sir Henry Acland, & to which the famous health officer, Sir John Simon, gave evidence, laid down the following list of things "necessary for civilised life" :—

1. The supply of wholesome and sufficient water for drinking and washing.——This we hope the Oakmere Scheme will give us.
2. The prevention of the pollution of water.——In this, I fear, we are found wanting.
3. The provision of Sewerage and the utilisation of Sewage ——-We have done good work in laying new sewers, of late ; but, except for some agricultural benefit from the night soil, nothing has been done to utilise sewage.

4. The regulation of streets, highways, and new buildings.——This we do, with increasing interest; but our bye-laws require great consideration and forethought for their re-framing.

5. The healthiness of dwellings, and

6. The removal of nuisances and refuse, and consumption of smoke. —-———Much more remains to be done under these headings.

7. The inspection of food.——Here a big step has been taken.

8. The suppression of causes of diseases and regulations in case of epidemics.——This is especially the care of my department; but much more can be done if parents will co-operate by isolating children at home when so requested.

9. The provision for the burial of the dead without injury to the living.——Here, at least, it may be claimed that our customs are satisfactory.

10. The regulation of markets, &c., public lighting of towns.——Messieurs "the Winsford Entertainments Co." hold the market rights and let out the stalls for the Saturday market to traders. The narrow market place is then almost blocked for traffic. This weekly Saturnalia is a picturesque survival, and indeed, since the war, a revival also. It's claim to indulgence is that it provides a variety of cheap articles to be had on the stalls in the street between 4-0 and 9-0 p.m.

    As for public lighting, the year 1926 has seen a great advance, or rather promise of advance. The Mid-Cheshire Electricity Supply Co., Ltd., made its current available for Winsford on 17th August, 1926.

The last clause of the Commission's Summary is

11. The registration of death and sickness.——The registration of death does not directly concern my department, but seems very efficiently done. The registration of sickness here is, I think, satisfactory; indeed, as we register measles (not without advantage resulting), we may claim enterprise in this respect.

The year has been a momentous one inasmuch as meat inspection has been instituted and the Oakmere Scheme launched.

In the immediate future the baths, which were so unfortunately burnt down a few years ago, are to be rebuilt by the Council in a new and improved form. The swimming bath, which is to be for salt water, brine diluted to about the strength of sea water, will be 70 feet long. Further the drowning fatalities in the Flashes, which recur every year or two, have led to the decision to dig out two safe bathing pools, one on each bank of the Bottom Flash.

On the subject of the Baths I wish to make three suggestions :--

1. If the idea of using the bath building as a public meeting hall in the winter be decided upon, then the means of flooring the bath

must be simple, rapid and inexpensive. In some places the methods used are costly and clumsy,——wooden trusses on which a floor has to be laid, board by board.
Draw-out joists and a floor on the roll-top desk principle could surely be devised that could be put in place in a few minutes.

2. Swimming baths are generally kept at 70° F. The mineral water at Bath, which comes out of the ground at a temperature of 120° F., is cooled for use in the Swimming baths to about 90° F.

   The Swimming baths are thus quite warm, and are even more popular in the winter than the summer. The use of our baths in the winter, heated an extra 20° F., (*i.e.* to 90° F. instead of the usual 70° F.) might well be tried.

3. Now that electric current is available, light baths should certainly be provided. It is a fact now accepted everywhere, that the invisible rays * of the sun and of open arc lamps and mercury vapour lamps are curative of certain diseases, especially ricketts and surgical tuberculosis.

   The expenditure required to bring this important and simple means of cure into our neighbourhood would be relatively small. A great deal could be done with a room 16ft. x 16ft., and a lamp costing from £30 to £60.

   Half-a-dozen patients or more may be exposed to the light at once. The skin browns as if it had been in the sun ; and, beside the curative effect, a sense of well-being is produced.

   There are safe lamps, that is those simple to use if ordinary knowledge and care be exercised, and others which are only safe in very skilled hands. Of course the former only would be appropriate for what I propose.

   When it is mentioned that in one department alone of Germany, (Baden) 40 municipalities have installed such light baths for the public use, it seems reasonable that we in Winsford should consider the matter when we are starting our public Baths once more. The installation would certainly pay for its upkeep.

But the public health of the town, much as it owes and will owe to such efforts, must depend a good deal in the future on the foresight with which the growth of building and development is controlled. It was said by an American M.O.H. that public health depended on what you are willing to pay for it, in other words, that it can be bought. But experience here shews that a great proportion of our health expenditure is on remedying mistakes. Some of these could have been anticipated by foresight. To this end town planning or predetermining the functions of the different parts of the district should be the order of the day, and a small committee should work regularly for several years to get this in order. Health is priceless; but it need not be costly if foresight and prevention save the money now spent on remedies.

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* *Visible light wave-lengths are between 7000 (red) and 4000 (violet) Angstrom Units. The wave-lengths which are beneficial to health are especially those in the ultra-violet series of about 3000 to 2950 A.U.*

I have the honour to be,

Sirs,

Your obedient Servant,

LIONEL JAS. PICTON.

APPENDIX.

Unemployment Statistics for the Years 1922 to 1925.

Supplied by the courtesy of the Divisional Controller (Ministry of Labour) in regard to WINSFORD BRANCH EMPLOYMENT EXCHANGE.

1922.	Live Register.					Amount Paid.	Month ending.
	Men.	Boys.	Women.	Girls.	Total.		
January to April ...				Figures not available.			
May	366	3	51	6	426	Figures not available.	
June	298	3	63	5	369	do.	
July	285	4	54	3	346	do.	
August	268	3	45	1	317	do.	
September	289	3	67	8	367	do.	
October	267	2	74	14	357	do.	
November	271	2	64	10	347	£714 13 3	3 weeks ended 24/11/22.
December	311	1	82	10	404	£1,239 14 10	29/12/22.
1923.							
January 8th.	322	2	49	7	380	£1,060 6 4	27/1/23.
February 5th.... ...	342	2	82	8	434	£1,124 10 10	24/2/23.
March 5th.	328	4	112	10	454	£1,112 11 1	31/3/23.
April 9th.	264	2	89	6	361	£747 4 11	28/4/23.
May 7th.	266	5	90	1	362	£853 17 4	26/5/23.
June 4th.	340	3	115	6	464	£978 1 10	30/6/23.
July 2nd.	284	2	123	7	416	£957 13 0	27/7/23.
August 6th.	277	—	151	9	437	£1,252 14 4	†31/8/23.
September 3rd. ...	348	5	166	17	536	£1,223 12 0	28/9/23.
October 8th.	335	—	211	14	560	£1,227 4 6	26/10/23.
November 5th. ...	330	—	245	16	591	£1,555 4 11	†30/11/23.
December 3rd. ...	311	2	214	12	539	£1,117 2 7	28/12/23.
1924.							
January 7th.	308	2	155	7	472	£1,147 16 6	25/1/24.
February 4th.... ...	342	2	133	6	483	£1,273 1 3	†29/2/24.
March 3rd	258	7	141	4	410	£777 1 5	28/3/24.
April 7th	179	4	105	2	290	£512 9 11	25/4/24.
May 6th.	126	3	81	1	211	£615 8 11	30/5/24.
June 2nd	150	2	87	1	240	£525 1 8	27/6/24.
July 7th	142	2	85	—	229	£506 0 7	25/7/24.
August 4th	152	2	87	—	241	£781 9 0	†29/8/24.
September 1st ...	170	3	91	1	265	£638 15 11	26/9/24.
October 6th	159	1	99	3	262	£802 1 11	†31/10/24.
November 3rd ...	159	1	100	1	261	£828 3 2	28/11/24.
December 1st... ...	196	1	140	1	338	£1,309 14 0	†2/1/25.
1925.							
January	239	1	285	16	541	£1,509 1 7	†30/1/25.
February	240	2	137	6	485	£1,245 11 10	27/2/25.
March	261	2	137	58	458	£1,345 16 4	27/3/25.
April	251	—	158	4	413	£1,438 7 0	24/4/25.
May	216	1	138	—	355	£1,458 18 11	†29/5/25.
June	210	1	265	14	490	£1,219 12 10	26/6/25.
July	175	4	125	6	310	£1,053 8 11	†31/7/25.
August	147	3	99	5	254	£734 5 1	28/8/25.
September	142	19	93	11	265	£1,043 5 4	25/9/25.
October	161	6	75	7	249	£1,011 15 1	†30/10/25.
November	212	4	56	2	274	£914 18 0	27/11/25.
December	203	4	65	7	279	£952 12 3	25/12/25.

† *Five Week Month.*